# MARINE RECORD

ESTABLISHED 1878.

VOL. XXIII, No. 18. CLEVELAND---MAY 3, 1900---CHICAGO. $2.00 Per Year. 5c. Single Copy


## LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and improve the character of the service rendered to the public.

PRESIDENT.
W. C. FARRINGTON, Buffalo.

1ST VICE-PRESIDENT
CAPT. J. G. KEITH, Chicago.

SECRETARY.
CHARLES H. KEEP, Buffalo.

TREASURER.
GEORGE P. MCKAY, Cleveland.

COUNSEL.
HARVEY D. GOULDER, Cleveland.

EXECUTIVE AND FINANCE COMMITTEE.
JAMES CORRIGAN, Chairman, Cleveland.

COMMITTEE ON LEGISLATION.
GIBSON L. DOUGLAS, Chairman, Buffalo.

COMMITTEE ON AIDS TO NAVIGATION.
GEORGE P. MCKAY, Chairman, Cleveland.

## LIGHT-HOUSE BOARD OF THE UNITED STATES.

LIST OF MEMBERS.

Hon. Lyman J. Gage, Secretary of the Treasury, ex officio President; Rear Admiral Francis J. Higginson, United States Navy, Chairman; Col. Walter S. Franklin; Col. George L. Gillespie, Corps of Engineers, United States Army; Capt. Yates Sterling, United States Navy; Dr. Henry S. Pritchett, Superintendent U. S. Coast and Geodetic Survey; Lieut. Col. Alexander Mackenzie, Corps of Engineers, United States Army; Capt. Thomas Perry, United States Navy, Naval Secretary; Major R. L. Hoxie, Corps of Engineers, United States Army, Engineer Secretary.

NINTH DISTRICT.—This district includes all aids to navigation on Lake Michigan, Green Bay, and tributary waters lying west of a line drawn across the Straits of Mackinac, at a point just to the eastward of Old Mackinac Point light station, Michigan.

Inspector—F. M. Symonds, Commander, U. S. Navy, room 1431 Marquette building, corner Adams and Dearborn streets, Chicago, Ill.

Engineer—James G. Warren, Captain of Engineers, U. S. Army, 155 Mason street, Milwaukee, Wis.

TENTH DISTRICT.—This district extends from the mouth of the St. Regis river, St. Lawrence river, New York, to the mouth of the river Rouge, Detroit river, Michigan. It embraces all aids to navigation on the United States' shores and waters of Lakes Erie and Ontario, and the upper part of the St. Lawrence, the Niagara and the lower part of the Detroit rivers.

Inspector—Franklin Hanford, Commander, U. S. Navy, Ellicott Square, Buffalo, N. Y.

Engineer—T. W. Symons, Major of Engineers, U. S. Army, 1100 D. S. Morgan building, Buffalo, N. Y.

ELEVENTH DISTRICT.—This district extends from the mouth of the river Rouge, Detroit river, Michigan, to the westerly end of Lake Superior. It embraces all aids to navigation on the United States' shores and waters of Lakes St. Clair, Huron and Superior, the upper parts of the Detroit river, the St. Clair and St. Mary's rivers and that part of the Straits of Mackinac lying to the eastward of a line drawn across the Straits just to the eastward of Old Mackinac Point light station, Michigan.

Inspector—J. C. Wilson, Commander, U. S. Navy, U. S. Public Building, Detroit Mich.

Engineer—Thos. H. Handbury, Major of Engineers, U. S. Army, 18 Bagley avenue, Detroit, Mich.

Mariners and others interested in commerce and the preservation of life and property from loss by shipwreck on the coasts of the United States are earnestly requested to give prompt information to the district inspectors or engineers, or by direct communication to the Light-House Board, of all cases of injury to, or unsatisfactory condition of service of any aid to navigation, or of the necessity for additional aids, and of all cases in which lights are not exhibited punctually at sunset and extinguished at sunrise, when they are not properly attended to during the night, when floating aids are out of position, and of all cases in which the published instructions are not strictly complied with, that the board may, with as little delay as possible, apply the proper remedy and prevent neglect of duty on the part of persons connected with the aids to navigation of the United States.

All lights of the United States on the northern lakes and rivers and their adjacent navigable waters will be exhibited from sunset to sunrise, at all seasons when vessels can enter the ports, or are navigating in their vicinity. The dates of discontinuing and relighting the lights will vary with the seasons; but keepers will be careful to exhibit lights whenever of use to navigators.

All buoys in the lakes and their adjacent waters will be kept on their respective stations as long as possible in the fall without running the risk of their loss by being caught in the ice; and they will be promptly replaced in the spring after the ice leaves.

## ERIE CANAL COMMISSION.

The Board of Engineers appointed by State Engineer Bond to consult regarding high-lift locks for the proposed barge canal across New York State, met at Albany, April 27th; the five members being present, namely:

Mr. George S. Morrison, from New York; Major D. C. Kingman, U. S. A., from Chattanooga; Prof. Wm. H. Burr, from Columbia College; Major T. W. Symonds, U. S. A., from Buffalo; Mr. Elnathan Sweet, from Albany.

The Board organized by selecting former State Engineer Elnathan Sweet for chairman, and Mr. Henry Goldmark, M. Am. Soc. C. E. as secretary; the latter having investigated the subject for the recent U. S. Deep Waterway Commission and being, therefore, in position to give to the present Board the full benefit of these investigations.

State Engineer Bond presented the general subject to the Board by saying that he wished the matter to be considered in the same practical way that would be used if some private company were about to construct a canal as a financial investment, and that it was desired that the interests of the State should be considered in order to find that style of lock which should give the best economy for the money invested, giving consideration not only to facility for navigation but also to the interests of the people who are to pay for the canal if it is built.

There were given to the Board for consideration descriptions and details of all the high-lift locks which have been designed or built.

The one first considered was the pneumatic lock designed by Mr. Chauncey N. Dutton, and presented by him to this Board in great detail. The features of the Dutton design were discussed at length, and the Board adjourned late in the afternoon to visit the Cohoes Falls, where 140 feet of rise is now accomplished by sixteen double locks of the present Erie canal, and where a high-lift lock is most desired.

The Board was accompanied on this trip by State Engineer Edward A. Bond, and by Deputy State Engineer William Pierson Judson, and also by Chief Bridge Designer William R. Davis, of the State Engineer Department, who has recently designed a mechanical lift lock which will be considered by the Board; also by Mr. D. J. Howell, recently in charge of investigations for the U. S. Deep Waterway Commission and now consulting engineer on the present survey.

The Board returned to Albany and convened April 28th, to continue the investigation.

## POPULAR ASTRONOMICAL NOTES.

The principal winter constellations are no longer conspicuous in our evening sky; though they may still be seen for a short time struggling with the strong twilight.

Toward the west, about midway between the horizon and zenith, Castor and Pollux of the Gemini may be found. Capella in Auriga is the only first-magnitude star now visible in the north-western heavens in the early evening. Leo with the well defined Sickle will be near the meridian most of the month and hence will be seen at his best. Arcturus in Bootes is approaching the meridian and will be a leading brilliant in the evening skies of May. South-east of Arcturus, Spica in Virgo, a star of decided bluish tint may be easily recognized. Later in the evening, toward the south-east the ruddy Antares in Scorpio may once more be seen. Toward the north-east Vega in Lyra, one of our beautiful summer stars, may now be found. Mercury will be lost in the glow of the sun during this month. Venus is still the unrivaled queen of beauty in the evening sky. She will continue to approach the earth and increase in brilliancy during May, though her angular distance from the sun will gradually diminish. Her phase at present is that of the moon at the close of the first quarter, but will gradually become crescent and she will present a beautiful picture in the field of the telescope. Venus will be in conjunction with the crescent moon on the evening of May 2 and also on the evening of the last day of the month. Mars is a morning star but is too far from the earth, and apparently too near the sun to be of any special interest. Jupiter in Scorpio, will be quite conspicuous in the evening toward the south-east, but will be too near the horizon for best results with the telescope. He will be in conjunction with the moon on the evening of the 15th. Saturn rises before midnight and hence is classed as an evening star, but he will only be accessible for satisfactory telescopic observation in the early morning.

There have been but very few sun spots during the past month. A group of small spots, about midway on its journey across the sun's disk, is slowly fading out and is now barely visible.

The most important astronomical event of the year is the total eclipse of the sun on the morning of May 28. Unfortunately Cleveland is not included in the shadow track. Norfolk, Va., is, I believe, the nearest point to your city within the shadow. Though the total phase lasts less than a minute and a half the experiences of that brief moment will richly repay any who are so fortunate as to witness it.

The eclipse at Cleveland will be well worth seeing, as not less than nine-tenths of the face of the sun will be covered by the dark body of the moon.

D. SATTERTHWAITE.

Toledo, Ohio.

## PORTLAND CEMENT.

Our readers will recollect that we published a number of articles in these columes last year, dealing with cements generally, but more particularly with Portlands. These papers excited considerable and widespread interest, and we were unable to meet all the demands made on us for copies of the RECORD containing them. We are now in a position to offer any of our subscribers who were disappointed, as we have just published a little volume entitled "Twentieth Century Cements," by Mr. Theo Zwermann, the well known expert in cements, clays, ceramics and kindred industries. Mr. Zwermann, has therein condensed the substance of all our original articles into comparatively small space and not neglected any item of interest. The result is the pamphlet referred to. We shall be glad to forward one of these to any of our friends.

## CHICAGO.

*Special Correspondence to The Marine Record.*

Charters were made on Monday for corn to Buffalo at 2⅛ cents and to Lake Ontario at 4 cents.

Higgie & Chamberlain chartered the schooners Lake Forest and J. H. Mead for corn to Port Huron at 2 cents.

The U. S. revenue cutter Morrell, Capt. Davis, arrived here last Thursday to take part in the Dewey celebrations this week.

The port of hail of the steamers John Plankington, P. D. Armour, W. M. Egan and R. P. Fitzgerald has been changed to Chicago.

The Lehigh Valley Transportation Co.'s steamer Saranac arrived Friday morning April 27, with merchandise, she being the first line boat to arrive here from Buffalo this season.

Thirteen sailings every day to the east shore of Lake Michigan will be made by the passenger lines from Chicago this season. This is five more than last year and shows the great growth of passenger traffic on this lake.

The movement of the Chicago insurance men to reorganize the old board of marine underwriters at Chicago is considered significant of a general move that will soon be made to remove the almost prohibitory premiums now placed on grain boats rated at A2 or less.

The steamer Byron Whitaker with a cargo of coal consigned to the Western Coal and Dock Co., Waukegan, could not get into that port in consequence of the bar outside the harbor. The cargo was sold to Peabody & Co., of this port, and the steamer came here to unload.

Dan C. Deegan, the well known vessel supply man, has fitted out and repainted his steam launch Deegan Boys ready for her season's work. She was chartered by some Board of Trade members to take part in celebrating Admiral Dewey's visit to the drainage canal on Wednesday.

The Canada Atlantic Transit Co.'s steamer Arthur Orr arrived here last Thursday at midnight, with merchandise from Depot Harbor; after unloading she proceeded to South Chicago to receive repairs to damage sustained on her last trip in December, 1899, at the Chicago Ship Building Co.'s shipyard.

The Barry Line, of which Miles Barry is president and manager, is negotiating with James Davidson, shipbuilder, West Bay City, for a first-class passenger and freight steamer for service between Chicago and Muskegon, to be placed on that route in the fall. She is to be powerful and adapted to winter navigation.

The firemen and linemen on the dredging companies' tugs at this port went on strike last week in consequence of their employers' refusal to grant an increase of $10 per month on their wages, the men having asked for $60 instead of $50. The employers granted the demand and ended the strike an hour after it began.

The fine tug George D. Nau, recently purchased by Chas. Maytham, of Buffalo, arrived here Saturday afternoon from Green Bay. She is to be used in opposition to the Great Lakes Towing Co. at this port, and the tugs Tom Brown, Success, R. Prindiville and Sill will be associated with her. The Nau was built in 1896, and is a very powerful tug.

The coal shovelers at this port have struck for an increase of wages from 25 to 50 cents an hour. The coal dock firms refuse to pay that amount and say that unless the men agree to work at the old rate of pay they will put steam scrapers into the holds of the vessels, which can be operated by a few men and will enable them to dispense with the services of a number of the men altogether.

Preparations are being made to give wireless telegraphy its first trial on the lakes. The American Wireless Telegraph Co. is erecting a station and a 150 foot signal mast at South Point for communication with the Racine lighthouse at North Point. Some of the Goodrich boats will also be fitted with apparatus for telegraphing the station as they pass. It is expected that the first tests can be made next month.

The schooner Commerce, Capt. Edward Mullen, had her fore rigging and yard and her mainmast carried away by collision with one end of Wells street bridge, when she was being towed down the river last Thursday afternoon. The bridge continued to swing around towards the vessel after she was partly through the draw. The bridge tender says he could not stop it. The city will have to pay for the damage.

Miles Barry, President of the Chicago-Muskegon Transportation Co., is negotiating for the building of a large steamer to be used for freight and passenger service on their route. The Davidson Ship Building Co., of Bay City, will have the job. It is expected that it will be finished by next fall, and the appointments will be as fine as any steamer on the lakes. It is to be built so that it can be used for winter service as well as summer.

J. B. Bates & Co., shipbuilders, have completed extensive repairs on the L. M. & L. S. Transportation Co.'s steamers Peerless and Osceola. The steamer F. E. Spinner received six new deck beams and considerable new deck and other repairs; the schooner Annie M. Peterson received new deck beams and deck and new tow posts aft, the schooner Lotus received some new planking on side; the schooner Belle Brown new stanchions, rail and knight-heads, some outside plank forward and general recalking.

The Barry Bros. Transportation Co. commenced running Monday between Chicago, Waukegan and Kenosha; a full load of package freight and several passengers left here on the steamer Mabel Bradshaw, which will do the work for a few days until the company's steamer City of Grand Rapids has completed repairs, when she will run on that route daily. The Bradshaw was held over at Kenosha until Tuesday morning and left there with a big crowd of visitors to Chicago to attend the Dewey celebrations.

Negotiations are under way for the sale of the dry dock property of the Miller Brothers' Dry Dock Co., to a syndicate headed by C. A. MacDonald. The option secured by the syndicate will expire May 1. It is said that the deal will be consummated and the drydock will pass into new hands. The price will be upwards of $500,000. The most valuable asset of the company is the river frontage on both the North Branch and Ogden canal, but it is understood this will be added by the new syndicate, if the deal is completed.

Chief Shoemaker, of the revenue service, has sent Capt. Davis, of the cutter Morrell, to Milwaukee, with instructions to get the cutter ready as soon as possible, placing her in commission before May 1, and have her in Chicago on that date to aid in the celebration of Dewey day. The Fessenden, said Mr. Merrill, chief clerk to Capt. Shoemaker, was to be sent to Chicago, but the repairs will not be completed in time, and she will be placed in commission just as soon as ready. That will be some time after May 1—about the tenth.

The opposition to the tug trust will be established firmly in Chicago by the end of the present week. The tug Geo. D. Nau, which was recently purchased at Green Bay by Charles Maytham, of Buffalo, arrived to-day. Associated with Capt. Maytham will be Capt. William Harmon and Louis Holman, with the Chicago Towing Co. The fleet of tugs will consist of the Nau, Tom Brown, Success, R. Prindiville and Sill. Tug Robert E. Burke of the Barry fleet has been put in the drainage canal excursion business and Capt. Harmon last night said that Maytham had joined hands with his company.

The immense amount of tonnage chartered last fall to carry ore left the grain trade practically boatless so far as the first-class vessels went, and the grain men, in order to insure getting their shipments down the lakes, had to turn to the smaller class of tonnage of a lower rating. These boats are able to carry grain satisfactorily, but the insurance charged made it almost out of the question for the shippers or vesselmen to make anything on the carrying. The excess premium per $100 on grain cargoes, above that charged on other freight for an A2 boat was 75 cents for April, and for the month of May it will be 50 cents.

There has been more activity in vessel interests at South Haven this year than ever before. The City of Grand Rapids and the schooner Una have been sold to Chicago parties, the scow Mishicott sold to a Menominee man and the Myrtle M. Ross to Hall & Pringle, of Mt. Clemens. Capt. J. F. Smith, who formerly owned the Ross, bought the Robert J. Gordon, which burned to the water's edge in Chicago the past winter, and has brought her here to rebuild. She will be made into a barge. The tug V. Gray, formerly of Saginaw, but which has been sunk here in the harbor for a year, has been pulled out and is nearly repaired and ready to go to Chicago, where she has been sold to a dredging company.

## DULUTH—SUPERIOR.

*Special Correspondence to The Marine Record.*

The Superior coal docks are practically cleaned up on their soft coal.

The tug Richardson was sold by Nelson Mills, of Marysville, to Duluth parties.

By the first of May, 11 dredges will be engaged on government work and about 200 men will be employed.

The Bessemer steamer under construction at the American steel barge shipyard will be launched in about a week.

I notice that several scows built several years ago are now registered from the port of Duluth. Wonder why the scow 231 of 82 tons, built in 1894, should only now be registered.

The new steamer John W. Gates was in collision with an unknown steamer in Whitefish Bay early Monday morning and had several plates craked. She will go into dry dock at Duluth.

Capt. J. C. Wilson, inspector of the eleventh light-house district, will recommend that the new channel from the Duluth-Superior bridge down past Superior be buoyed and lighted this season.

The Northwest Transportation Co. will run the steamers Monarch, United Empire, Collingwood and Majestic from Sarnia to Duluth via Port Arthur this year. J. J. O'Connor is general agent.

The structure of the South pier of the Duluth ship canal has been finished at a cost of $200,000 It consists of 17 cribs, each 100 feet long, filled with rock and plated with iron on canal side.

The wheat rate from the head of the lakes is now 4 cents as against 2½ cents a year ago. There are 20,000,000 bushels in store. The new Omaha elevator on Allouez bay is taking in wheat. It has a capacity of 1,300,000 bushels.

Capt. S. F. Bernier, who for the last 22 years has been engaged in the life-saving service of the Great Lakes, has tendered his resignation to Supt. Kiah as captain of life-saving station No. 9., at Vermillion Point. Capt. Bernier is one of the best-known life-savers in the Lake Superior districts.

The steamer Admiral, a new Kirby boat, takes the first cargo of ore from the Missabe docks this year. The Missabe road is shipping ore from the Adams mine, and there will be a general movement of the commodity from the various mines in a day or two. The ore trimmers of Duluth have made no demands as yet. They received 3 cents a ton last year. The ore trimmers of Marquette are asking 3½ cents this year.

Capt. A. C. Majo, of the independent ferry line, is again operating ferry boats between Duluth and West Superior. The steamers Bell and Swansea will go on the ferry route at once, and later in the week the Hattie Lloyd and Bruno will be put on. The Hattie Lloyd has been rebuilt and looks like a new boat. The Swansea has been provided with a new wheel. All of the ferries have been thoroughly overhauled and put in good shape for the season's business.

The Marinette papers announce that the tug Smith left there for Ashland with the two scows purchased by the Holt Lumber Co. of the Spalding Co. It was the intention of the Holt company when they first arranged to come to Ashland to use these scows to transfer lumber from the docks to their plant, and the fact that the scows are now on their way here would lead one to believe that they have by no means abandoned Ashland as a location for carrying on considerable business.

Several million feet of logs, owned by the Millen-Arnold Co., contractors for the Alger-Smith Co., at Silver Creek, six miles down the lake here, caught fire from the forest fires and about $50,000 worth of logs were burned. The loss will be considerably more as the fire has not yet been extinguished. Fire tugs from Duluth and more than a hundred men from this place are at work endeavoring to save the logs. At the office of the Alger-Smith Co. it is stated that the Miller-Arnold Co. is in no way connected with the Alger-Smith Co. John Millen, vice president of the Alger-Smith Co., who resides in Duluth, is the member of the company sustaining the loss.

Mitchell & McClure have the largest individual amount of logs in the Nemadji, about 15,000,000 feet. There has been an enormous quantity of logs delivered at the mills of the Duluth-Superior harbor by rail this year, and were it not for this fact there might be well-founded apprehension of a shortage of logs as a result of the low water in the rivers. The summer logging will not be as extensive this year, generally speaking, as has been talked of. The Iron Range will not haul any logs on its line above Two Harbors, the Mesaba road will handle none. Mitchell & McClure have shut down their road for the summer, having their season's supply. Some lumbermen say that there will be very little, if any, more lumber cut on this harbor this year than last.

The government work in the Superior Duluth Harbor is now well under way. The Port Huron started to dredge last week opposite the St. Paul and Western Coal Docks, and the Portage started to work Tuesday opposite the Scofield lumber mills. The aim for the summer is to finish the work in District No. 1, that is to complete the 22 foot channel 400 feet wide from the natural entry up Superior Bay to the Superior-Duluth bridge, and to make the channel 500 feet wide west of the bridge to the Ohio coal docks in Duluth. The channel in Allouez bay is already 250 feet wide up as far as the Omaha flour dock, and not much will be done there this year. The south channel from St. Louis Bay from the N. S. bridge to the St. Paul & Duluth bridge will probably be widened to 200 feet this season. There is already a 22 foot channel along the St. Louis river on the Duluth side up as far as West Duluth, and on the Superior side up as far as the Y. & L. coal dock. This channel will be extended this year nearly up to Spirit Lake.

Plans of a new steamship line between Duluth and Montreal, just announced, give much greater importance to the project than the establishment of another lake line. The building of these boats will be the beginning of an era when the lake shipyards take a leading place in the construction of light drafts for ocean service. Before ice blocks the way next winter light draft boats will be on the Atlantic and more will be under construction. The new company will be known as the International Navigation Co. The president will be A. B. Wolvin, of Duluth. Headquarters will be at Duluth. Its fleet already under contract will consist of three steamers and three barges of the Welland canal size, and in that draft of water will carry 75,000 bushels of wheat. For ocean service they will carry 1,000 tons more. Construction will begin at once on four of the boats, which will be completed early next fall. The new line will be operated, it is expected, during the season of navigation, between Duluth and Montreal, carrying freight to the ocean steamers at the latter port. Before ice stops everything on the lakes the ships will be on their way across the Atlantic with cargoes direct to Europe, if a paying freight can be secured.

## DETROIT.

*Special Correspondence to The Marine Record.*

The steamer Atlantic has been libeled this week for the sum of about $150. A hearing in the case will be held next Tuesday.

To facilitate the marine postal service, vessel captains are requested to blow as a signal for the mail boat when she is not in sight, and at night one long, one short, and one long blast of the whistle.

The barge Filer, in tow of the steamer Oscoda, waterlogged on Lake Huron Monday. She has a cargo of lumber for Tonawanda. The Thunder Bay life-savers went out from Alpena and rendered assistance which allowed the Filer to proceed on her way.

The hightest court in Ontario has declared that the Ontario government had the right to prohibit the export of logs cut within the provine and to compel the manufacture of such logs into lumber within Ontario. The Michigan lumbermen will appeal to the privy council.

Lieut. Byron L. Reed, of the United States revenue cutter service, who was last summer transferred from this district to the Charleston station, has returned to his old post and is again on duty aboard the Fessenden. The latter is undergoing some slight repairs at the drydock.

The new Wisconsin Central bridge over the Chicago river is several feet narrower between abutments than was ordered and the steamer Amazonas is tied up below the bridge until the abutment can be reconstructed. There is a 42-foot passage, and the Amazonas has 44 feet width of beam.

The steamer Tampico, built and hailing from Toledo, has this week been granted official numbers from Washington, also signal letters. Her gross tonnage is 2,133 and net 1,451. The Tampico has been built by the Craig Ship Building Co. for coast service and will probably go through the canal late in the fall.

Bids for the deepening of the lower portion of the Detroit river to a depth of 21 feet, were opened in the office of Col. Lydecker, Corps of Engineers, in the Jones building, and three sections of the work went to Buffalo contractors, the remaining three being captured by Detroit, Toledo and Milwaukee bidders.

Word was received by John C. Shaw, Esq., local attorney for the Northern Steamship Company, that a libel had been filed before United States District Judge Coxe, of the Buffalo district, by the Bessemer Steamship Company against the Northern Steamship Company for $30,000. The beginning of the suit is the outcome of a collision in the "Soo" river, some distance below the canal, on November 28, 1899, between the North Star, of the Northern line, and the Sir William Siemens.

The launching of the Ravenscraig, the first steel ship ever built at Port Huron, was marked by elaborate ceremonies this week. Ten thousand people were in attendance, the city schools being closed in honor of the event. The new boat was christened by Miss Morton, daughter of Capt. Ed. Morton, the managing owner of the line operating the steamer, known as the Volunteer Transit Company. Immediately after the launching the flags on the boat were placed at half-mast, in respect to the memory of the president of the company, Capt. Thos. Wilson, who died recently.

As yet no measurements of the water at the Lime Kiln Crossing have been made, and it is possible that several days will elapse before this is done. Many vessel men are of the opinion that a depreciable effect will be found to have been produced by the Chicago drainage canal. Nothing can be said definitely, and even though a lower level should be found this spring than last year it would not necessarily be due to the drainage canal, but might come from less rain or other causes. Still, it is considered that during the season a shrinkage will become evident, and in the season even a few inches will cause much loss to the carrying capacity of vessels.

The Oades yards are busy and 70 men are kept jumping to get a number of jobs completed on quick contracts. The Brush yacht, the Sea Fox, is receiving new boilers; the Hall dredge is being entirely rebuilt, and the Starkey Dredging Co. outfit, consisting of tugs, dredge and scows, are being practically rebuilt. The steamer Leighton is receiving new forward works and a general overhauling. The steam yacht Alma C., owned by Capt. McAlpine, is receiving new planking and sheathing, and the steam yacht Lillie is being rebuilt with new spar poles to replace the old fashioned upper construction. The tug Oneida has been rebuilt from the water line and will be under steam Monday.

Deputy Sheriff Fenwick went out to the water works Tuesday morning to sell the crack sail yacht Sultana, at auction, to satisfy an attachment put upon her by her captain and his crew last December for back wages. The career of the Sultana has been exciting. Built at the Wyandotte shipyard at a cost of $7,200, she was sailed by the Ketchams with great success, becoming the champion yacht on the lakes. Then came Edmund Pierce, of Indianapolis, Ind., with a wad of money and an inclination for a good time. He bought the Sultana for $2,500 and spent last summer on her with his crew. The crew wasted their time because they got no pay. So libels were issued in both the United States and the Wayne Circuit Courts, and the graceful yacht was ordered to be sold to satisfy the debts of her owner. The libels amount to $1,500, and as the highest bid was only $800 the sale was postponed for two weeks, when Cleveland and Toledo yachtsmen expect to be present.

## TOLEDO.

*Special Correspondence to The Marine Record.*

The new steamer Tampico, constructed at this port was launched on Tuesday in the presence of a multitude.

Carlin and Warner are making excellent progress in the new Ironville docks; $15,000 worth of work is to be done on improvements there.

A fire in the boiler room of the tug Saugatuck caused a damage of $700. It is insured. The tug Andrews was damaged about $1,000, insured for $500.

The Maumee river has been dredged to a navigable depth at Ford's Glass Works, Toledo, and the river will now be deepened behind the Ohio Central wharves.

J. N. Dewey & Co., will soon have work commenced on a new tug at Monroe, Mich. She will be 75 to 80 feet long, and will be made as good as any of her size on the lakes.

The barge Iron City, owned by the Hamtramck Navigation Co., of Detroit, which was sent to the Atlantic coast last fall, has been purchased by Capt. M. Nagle and will be brought back to the lakes in a few days.

Toledo estimates that over a million and a quarter tons of coal will be shipped out of the port this season for the lakes. The channel leading to the city having been straightened, there is little danger of grounding.

The government dredge Maumee this morning finished the work of cutting a channel 50 feet wide, 15 feet deep and 800 yards long from the river to the foot of Monroe street. The dredge has done quick work and did it well.

The tug R. Porter Lee that was owned by Thacher & Shirley and which was sunk decks-to in Swan creek for a length of time, and which, after being raised, was taken to Monroe, sank there a day or two ago. She will be raised as soon as possible.

William T. Blunt, United States Engineer, completed a new channel connecting the Maumee river and Swan creek, at Toledo, the old channel having been reclaimed by the extention of the dock line. The new waterway is 50 feet wide at the bottom and has sloping sides. The average depth is 15 feet and the length is about 800 feet, more or less. The new cut will admit of the passage of every craft that has heretofore had business on Swan creek.

Capt. Charles Farr, superintendent of the Bethel boat at the foot of Monroe street, said today that he hoped to get a good hull and fit it up as a comfortable home for sailors. The present craft is not suited for the kind of outfit he would like. He will have a reading room, bath room, work shop and other conveniences in the new craft. Meals will be served in the boat. He will ask vessel captains to assist him in the enterprise.

Harbor No. 43, Masters and Pilots, has passed a resolution thanking Congressman Southard for his effort in trying to have Toledo a point for the inspection of hulls and boilers. The government is now compelled to pay the expenses of inspectors who have to come here frequently from Cleveland. It would be a matter of economy for the government to have inspectors here, and it would be a great convenience to owners of craft, as the delay, in waiting for the Cleveland men would be avoided. Capt. John Dunselth, who owns two tugs, says that under a law of this kind which Congressman Southard expects to have enacted, Mr. E. D. Lock would be acceptable to all marine men, as he is an engineer, and thoroughly capable. The owners of marine craft said yesterday that The Blade had done a good work in calling attention to the fact that inspectors should be appointed with residence in Toledo.

## BUFFALO.

*Special Correspondence to The Marine Record.*

Theodore H. Meyer has been elected vice president and Thomas B. French secretary and treasurer of the Union Transit line.

Buffalo marine engineers have called their strike off on the agreement of the line companies to pay the scale of wages adopted at the close of last season.

John Madigan, of Buffalo, has purchased a third interest in the steamer Baldwin and consort Carpenter from Capt. Kelley, of Saginaw. The price paid was $10,000.

John Fitzpatrick, of Buffalo, has just chartered the Pere Marquette steamer F. & P. M. No. 5, with a capacity of 100,000 bushels of grain, for $15,000 for the season.

The schooner Iron City has been purchased by Buffalo parties through Hall & Root, and will be brought back from the coast when navigation opens. Terms are private.

Capt. Winslow W. Greisser, who for the past several years has been stationed at Fort Niagara, has been appointed to succeed Capt. Williams as keeper of the Buffalo life-saving station.

It has come to such a pass in Buffalo harbor that improvements are absolutely necessary to prevent a discrimination against the port in favor of Erie and other Lake Erie cities. The board of councilmen, at a recent meeting, attended by a delegation of Buffalo vesselmen and others directly connected with the marine interests, were told that the vast amount of tonnage coming into Buffalo was due to her favorable situation, but the poor harbor facilities were liable to drive tonnage to Erie.

Erie is now the only port on the lakes that has not the Maytham tug service, but Capt. Maytham is about ready to send a tug there. He has sent three tugs to Chicago and united with the Chicago Towing Co., which has four tugs in his line at Duluth and is sending two more.

What is termed the Western Elevator Association, and known as the Buffalo elevators' pool, has been reorganized upon the same basis as that of last season. This assures the half cent rate. The officers and committee were re-elected. Two elevators, the Kellogg and Watson, have not yet joined the association.

William E. Fitzgerald, of Milwaukee, and James C. Wallace, of Cleveland, members of the American Ship Building Co., were here this week inspecting the Buffalo Dry Dock Co.'s plant, recently purchased by the company they represent. The American Ship Building Co. intends materially enlarging the plant purchased and to greatly increase its capacity. Considerable machinery will be transferred from the Wheeler yard at Bay City to the local plant. Probably no changes will be made in the local management.

There is but little change this season in hull insurance rates. On A1 steel vessels the rate is 4½ per cent.; on A1 wooden vessels 5½ per cent.; on A1½ wooden boats 6 per cent.; on A1 sailing vessels, 6½ per cent.; on A1½ sailing vessels, 7½ per cent. On all A2 vessels there is absolutely no change. The last named have their own special form of insurance policy. On all the other classes the policy specifies "one-third new for old." As usual, the policies are made out for the entire year, covering fire, collision or sinking damage while laid up in winter.

## CLEVELAND.

*Special Correspondence to the Marine Record.*

It is now announced that the first boat of the C. & B line for Buffalo will leave next Monday night.

M. A. Bradley, of Cleveland, will manage the Lackawanna-Green Bay line steamers Badger State and Empire State.

The American Ship Building Co. will re-build the docks of the Buffalo Dry Dock Co., recently acquired, making them 600 feet in length.

The schooner R. Hallaran in tow of the Drake, from Two Harbors to Conneaut, was abandoned in a sinking condition on Wednesday, eight miles from Stannard Rock.

The Cleveland-Toledo line steamer State of Ohio cleared Tuesday forenoon for Toledo, from where she sailed Wednesday night, opening the nightly service between these two cities.

Harvard, Yale, Princeton and three other famous colleges in the United States are to have their names on the six large steel vessels being built for the Carnegie interests on the lakes.

It is said that a likelihood exists of some 20 steel vessels of the Welland canal size being built by A. B. Wolvin and his associates. A vessel company called the Hamilton & Fort William Navigation Co. has contracted for two.

Ashtabula had received four ore cargoes this season by Friday. The first to arrive was the steamer Jim Sheriffs and consort Mowatt. They have the credit of bringing the first ore to Ashtabula in 1900. The steamer German arrived Friday morning and the steamer V. Swain. Last year the first arrival at Ashtabula was eight days later. In 1899 the La Salle brought in the first ore cargo on May 5 and was followed on May 6 by the Oscar T. Flint and Geo. W. Roby.

Although the Cuyahoga Boiler Works, John Maher, proprietor, at 139 West River street, has been established but a few months, a very satisfactory share of repair work has been completed, among which we may mention repairs to the steamers Pioneer, Pontiac, Kaliyuga, Onoko, Rube Richards, Ohio, Desmond, Inter-Ocean, Dan Kunz, Mentor, and tugs Owens, Delta, L. P. Smith and Marinette, Bachman Bros. dredge. Mr. Maher manufactures stationary, marine and locomotive boilers.

NIAGARA RIVER—BUOYS MARKING DREDGED CHANNEL ABOVE CAYUGA ISLAND.—On the opening of navigation, 1900, six 16-foot spar buoys will be established to mark the recently dredged channel across the reef above Cayuga island and below the Edgewater ferry landing, Niagara river, New York.

These buoys will be numbered from 1 to 6, inclusive, 3 black and 3 red, marking the ends and sides of the dredged channel and will be named first buoy, second buoy, third buoy, etc. The channel marked by these buoys is straight and across a reef of rock. It is 150 feet wide for its entire length of about 1,000 feet. The depth in this dredged channel is 12 feet. There is loose rock on the sides over which there is only 6 to 8 feet of water. Vessels drawing over 10 feet of water should not attempt to use the channel.

A MARK of the growing prestige of the marine hospital service is seen in the order that has been issued from Washington ordering all commissioned officers of the service to have their uniforms made in conformity to the regular army officers' uniforms after May 1. When the army marine corps was established the army and navy both refused to share with it their style and uniform, but of late the worth of the marine hospital service has become more and more apparent, and as the standard of excellence of the officers equals even that maintained in the medical corps of the army and navy, the army has at last taken it as a compliment to have the hospital officers wear the regulation uniforms.

## MORE FOOLISHNESS OF THE STEAMBOAT INSPECTORS' DEPARTMENT.

We have frequently pointed out the general incapacity of the Steamboat Inspection Department, and also recently noted that one of the Supervising Inspectors had written to his local staff to carry certain news items, which the RECORD had inquired for and worked up, to another journal.

Finding from his instruction that the RECORD sought certain information this Supervising-Inspector of the U. S. Steamboat Inspection Service instructed his local inspectors to convey the information to other papers, thus violating our correspondence with the Supervising-Inspector General of Steamboats, at Washington, and, in a manner, or to that extent, betraying his trust.

That the Supervising-Inspectors of Steamboats are making a stupid owl of the Secretary of the Treasury, is evident from the following :

"In an editorial under the caption of 'Unjust to Sailing Ship Masters,' we stated that the rule passed by the Board of Supervising-Inspectors of Steam Vessels at its last annual meeting 'obliging sailing shipmasters to serve three years in a subordinate capacity in a steam vessel before they could be licensed as masters of such,' was unjust, and gave our reasons for so stating. Two of the supervising inspectors in courteous communicatious contend that we are wrong and ask us to carefully read the rules which they forward and which they contend provide that a sailing shipmaster has to serve only one year as a first officer of a steamship to be eligible to command her if he has had two years previous experience on a sailing vessel. That the supervising inspectors referred to, and that our readers as well, may understand that they are mistaken, we print the rule in dispute, which reads as follows :

"No original license as master of ocean or coastwise steamers shall be issued to any person who has not had three years' experience on steam or sail vessels preceding the application, one year of such experience to be as chief mate of steam vessels. No original license as chief mate of ocean or coastwise steam vessels shall be issued to any person who has not had three years' experience on steam or sail vessels, and must have served one year as second mate of steam vessels, such service to be immediately preceding the application. No original license shall be issued to a second mate of ocean or coastwise steam vessels who has not had three years' experience in the deck department of steam or sail vessels immediately preceding the application, one year of such service to be on steam vessels.

"Now if our correspondents will do as they requested us to do, 'peruse this rule carefully,' we think they will find that when the American Association of Masters and Pilots urged them to pass it, they sold them a gold brick as it were. Had the supervising inspectors read the three sentences of this cunningly devised measure from the bottom up they would have discovered that it enforces fully three years' service on steam vessels by a sailing shipmaster who desires to command a steamer.

"If the applicant for a license has never been in a steam vessel, as is the case with most sailing vessel masters, he cannot obtain a master's license until he has secured a chief mate's license and rendered one year's service under it, and to obtain this chief mate's license he has to serve one year as second mate of a steamer, and in order to get a second mate's license he has to render one year's service before the mast in this class of vessels. After going through these grades as provided by this extraordinary rule, if he doesn't fall overboard or die of old age in the meantime, he may become a full fledged licensed master.

"A Marine Journal representative has had an interview with Supervising Inspector-General Dumont and Supervising Inspector Starbuck in regard to this matter, and both admit that the foregoing construction of this objectionale rule is correct, and that the passage of it after being favorably reported from the committee of supervising inspectors to which it was referred, was a mistake that occurred through its not receiving the careful consideration it should have, through the multiplicity of business on the day it occurred. There is no reason to doubt that it will be promptly rescinded at the next meeting of the Board. In the meantime if any legal way of modifying it can be found, it will be done. This, however, does not affect the opinion of the Marine Journal, which was, and still is, that an intelligent sailing shipmaster who can pass the necessary examination imposed as to the 'rules of the road' and others governing both sail and steam vessels, is competent to command a steam vessel with as great a degree of safety as a steamship man who has never been in or commanded a sailing vessel, and is entitled to a license when applied for.

"The navigation and handling of a steam vessel is very easy in comparison to that of a sailing ship, and none of the many who have made the change direct from the command of sail to steam have ever made other than a success of it, hence our belief that the rule is unjust to this especially able class of mariners, although experienced men differ from us. We never feel more at home at sea in a steamship than when we know that the man in charge of her navigation has served an apprenticeship from the forecastle to the cabin in a sailing ship, and could reef, hand and steer, if necessary.

"The English law on this important question of the ability necessary to command a steamship, requires that the steam vessel master shall have previously commanded a sailing ship, but it does not require that he shall serve as a subordinate officer on a steamer before commanding one. No one will venture to decry the ability of English steamship masters or those who make laws for their government which are very strict. This, with the foregoing arguments, proves that we were right in stating that the inspectors' rule is 'Unjust to Sailing Ship Masters.' "

## THE SUEZ CANAL.

Just forty years ago, in 1859, the first spadeful of sand was dug by M. De Lesseps at Port Said as the formal commencement of the Suez canal. In 1869 the canal was opened by the Khedive Ismail and the Empress of the French, who led the procession of ships belonging to all nations through this new waterway of the world which has revolutionized the great trade routes from west to east, and so magnified the political importance of Egypt that it is a possible battlefield of the nations. November 17, the great constructor of this Egyptian bosporus received his apotheosis in the inauguration of his statue on the western jetty of Port Said, which will greet every ship that passes from west to east or east to west.

M. D. Lesseps fully deserves this intimate and permanent association with his work. It would never have been completed without his indomitable perseverance. He often said that his principle in life was to have confidence in himself and his work, and his heart never failed him. The opposition of England, the lukewarm, intermittent support of his government, and the distrust of the Porte would have seemed to any ordinary man obstacles that could never be surmounted. But "it's dogged as does it." Lesseps never lost heart over his "one-man work," and it ended in a magnificent success. In 1869, forty ships passed through the canal with a tonnage of 10,500 tons. In 1896, 3,409 ships passed through with a tonnage of 12,000,000 tons. In 1872, no dividend was paid on the shares, and the shares of £20 were quoted at £7. To-day, a dividend is paid of £3 12s. per share, and the shares are posted at over £150.

It is curious to look back on the early history of the enterprise, and to realize how often objections, excellent in theory, totally disappear in practice. There was the political objection raised by Palmerston that English imperial interests would be injured and the integrity of the Ottoman empire endangered. Yet Turkey remains much the same, and such dismemberment as it has suffered has been in no way caused by the Suez canal. England has suffered no injury; she is now the largest shareholder and by far the biggest customer of the canal. The original causa causans of her presence lies in the extravagance of Ismail Pasha, who first ruined the country, and then brought upon himself the intervention of Europe by his attempts to wriggle out of his financial responsibilities. Then came the pseudo-national insurrection, and the defection of France, which left England to play the part of international policeman all alone. Finally, the fanaticism of the Soudan so increased the difficulty of the task of restoration of order and maintenance of good government that England is still in Egypt, and will never leave it.

Passing from the political objections, the physical and commercial objections have been equally proved by experience to be without weight. The first and most formidable in appearance was the difference of tide between the Red sea and the Mediterranean. The engineer, M. Lepere, sent by the first Napoleon to report on the possibility of a canal between the two seas, said that this difference of tide made the scheme absolutely impossible. So it would have done had it existed. But forty years later a series of levels established the fact of the identity of the mean sea levels at Suez and Port Said, and a waterway without even locks was pronounced possible.

A danger of more real character at the Port Said end was next pointed out. The mouths of the Nile constantly bring to the sea a vast quantity of mud and sand, and as the coast currents set eastward the silt at the northern entrance of the canal was expected by many experts to block the passage. This would have been the case if engineering skill had remained at the point it was. But the mechanical devices for clearing out the bed of this canal, and for keeping it clear when made, improved by great strides every year. The supply by the Egyptian government of 20,000 fellahen every month was withdrawn, and machinery had to take its place. Dredges of continually increasing power were imported, and this year three are to arrive which will clear away the silt outside Port Said at the rate of 600 tons an hour. The distinguished engineers with whom I traveled here all assured me that this, the most serious danger, is now averted. The risk of collision and grounding was thought by many experts to be very great. The statistics of the last few years show it to be hardly worth consideration. Sand storms were expected from time to time which would choke the canal in the parts which pass through the desert. But as long as the present administration continues there is no fear. Moreover, the banks are now mostly planted with trees and shrubs, and the sides of the canal are faced with stones to avoid the effects of the wash of the vessels as they go by.

Since the purchase by England of the 176,602 shares in 1875 for four millions (now worth £26,500,000), and the introduction of English administrators on the direction—there were only three at first, but there are now ten—many improvements have been made, while complete harmony has reigned in spite of the international character of the administration. The sidings where the biggest ships can pass have been increased by nine, and the width of the canal has been made such as to allow ships to pass each other in most parts, and they have no longer to wait in the sidings. The traffic had so much increased that it was difficult for a ship to get through the canal under forty-eight hours. After many experiments the electric light was introduced, and all ships pass in the night as much as by day. The canal journey has been accomplished in seventeen hours, and the average is now under twenty-four hours.

One great improvement still remains to be done, and until it is effected the canal cannot be said to be perfect for its purpose. Sir Charles Hartley, one of the consulting engineers of the company, in a paper read before the British Association at Dover, thus states the difficulty to be surmounted:

"It seems highly desirable in the interests of commerce that a sufficient depth should be provided as soon as practicable for vessels of a draft of twenty-seven feet ten inches, instead of limiting it to twenty-five feet seven inches, as at present; and, further, that eventually the canal and its sea approaches should be deepened to thirty-two feet nine inches (ten meters) * * * to permit vessels drawing up to twenty-nine feet six inches to pass safely from sea to sea with a minimum of half a meter of water under the keel."

The size of steamers has so much increased that when fully laden many draw from twenty-seven feet to thirty-one feet. At Liverpool, New York and Antwerp the depth is now over thirty feet at low water, and the Amsterdam and Baltic canals have both been deepened to thirty feet.

## HOW TO RID SHIPS OF RATS.

Le Yacht of Paris draws attention to a cheap and effective plan for getting rid of the rats which are so often a perfect plague on board ships. The plan is one invented by M. Pierre Apery of Constantinople. He produces, by means of ordinary reactive agencies, carbonic acid gas to any desired quantity in the hold of a rodent-infested vessel. Owing to its specific gravity, the gas lies in the lowest parts of the hold, penetrating into every chink and crevice, and asphyxiating the rats, the dead bodies of which can be removed after the hold has been aerated. To ascertain whether any of the gas remains in the hold a lighted candle is sufficient.

Another way to dispose of rats without leaving their bodies to fester in their holes is to fill a barrel or barrels two-thirds full of water and cover the water with any garbage or other enticing stuff that will float and hide the water. The barrels should be so placed that the rats can jump into them. They will follow one another by the dozen, and once in the barrel, they can never get out, having no foothold to enable them to jump.

Maritime Liens—Admiralty Jurisdiction—Marine Contracts.—It is settled that contracts to furnish labor or materials for the repair of a vessel, whether made on the credit of the vessel, or the personal credit of the person contracting therefor, are maritime, and within admiralty jurisdiction. The Iris, 100 Fed. Rep. (U. S.) 104.

## TREASURY DECISIONS.

LEGAL RIGHTS OF LICENSED OFFICERS OF STEAM VESSELS UPON APPEAL.

Licensed officers who are parties to appeal cases entitled to notice of time and place of hearing, and to be represented by counsel.

TREASURY DEPARTMENT,
STEAMBOAT-INSPECTION SERVICE,
WASHINGTON, D. C., April 23, 1900.

SIR: Mr. Harry F. Swaney, late pilot of the steamer Charlie Clarke, whose license was suspended for sixty days by you after he had been twice exonerated "from all blame" by the board of local inspectors at Pittsburg, under the authority conferred upon such officers, for a collision between the steamer Charlie Clarke, of which he was pilot, and the steamer Pacific, in command of Capt. D. A. Woodward, master and pilot, the local inspectors, as the result of each investigation, holding that Capt. Woodward was wholly at fault and guilty of "negligently and unskillfully navigatting his steamer," upon which finding they suspended his license for ninety days. The faults quoted were legal ones, under the statute giving them authority to act in the case (section 4450, Revised Statutes), and the punishment for which faults provided for in the same statute, which they could not legally disregard, was the suspension or revocation of the offender's license.

It appears inferentially from your statement of the case, which I will quote hereafter, though not so stated in terms, that Capt. Woodward, of the Pacifie, "deeming himself wronged" by the local inspectors' decision, appealed to the supervising inspector, as was his legal right to do, under section 4452, Revised Statutes, to "have his case examined anew" by that officer, the supervising inspector under the same law having the authority, after such re-examination of the case, to revoke, change, or modify the decision of the local board that had suspended Capt. Woodward's license. It appears, however, from the record of this case, as furnished by yourself, that instead of examining the case in the manner provided by law, you, contrary to law and the regulations of the board of supervising inspectors, which have the force of law, remanded the case back to the local inspectors at Pittsburg, in a letter dated March 12, ultimo, of which the following is a copy:

I have gone over the testimony in the cases of Capt. D. A. Woodward, of the Pacific, and Harry Swaney, of the Charlie Clarke. The decision you have made in suspending Capt. D. A. Woodward has been set aside, and he is hereby restored to duty for the following reasons: That you have not proceeded according to law. No charges have been made against Capt. Woodward and Swaney. In this you have failed to comply with the law of procedure. I respectfully call you attention to section 4450, Revised Statutes; also to the Treasury decision No. 7278, page 283 of the Manual of 1899. You are hereby instructed to file charges against both D. A. Woodward, master and pilot, and Harry Swaney, pilot, at once, and proceed with the trial according to law. You will at once notify Capt. Woodward that his license has been restored to him.

The local inspectors, under the unwarranted directions to them above quoted, preferred charges against both officers, reinvestigated the same, and, as a result, repeated their former decision exculpating Pilot Swaney, and finding Capt. Woodward guilty as before.

Capt. Woodward again appealed to you, under the provisions of section 4452, Revised Statutes, which entitled him to again "have his case examined anew"—a provision of law not carried out, however; on the contrary, you simply reviewed the testimony taken before the local board, and on that evidence alone (letter dated March 23, 1900) reversed the decision of the local inspectors by restoring Capt. Woodward to duty and suspending Pilot Harry Swaney for sixty days, notwithstanding his case was not legally before you, he not being the appellant in the case, nor notified by you, as he had a legal right to expect, if his case was to be considered, of the time and place of the re-hearing and the opportunity of appearing before you with counsel, as the law directs—namely, section 2, last paragraph, act of Congress approved May 28, 1896, page 67, Inspectors' Manual, edition 1899, which is quoted for your information as follows:

And in all cases where the issue is the suspension or revocation of such licenses, whether before the local board of inspectors, as provided for in section 4452 of the Revised Statutes, or before the Supervising Inspector, the accused shall be allowed to appear by counsel and to testify in his own behalf.

Your attention is further called to the fact that the forms of law in your review of the case under consideration contained in the rules of the board of supervising inspectors, governing procedure in such cases, were ignored, inadvertently no doubt, in your directions to the local inspectors in your letter of March 12, your attention being particularly called to words underscored in the following repetition of the rule referred to:

III.—APPEAL TO SUPERVISING INSPECTORS.

Sec. 3. The testimony taken before the local board may be considered by the supervising inspector, for the purpose of determining whether the finding of the local board is justified by the evidence, and he shall have power to remand the same for explanation or correction, but not for a new trial; but the testimony taken before the local board, except for the purpose of impeaching a witness, can not be read in evidence in the trial of the case before the supervising inspector except by consent (page 79, Rules and Regulations, 1899).

In view of these facts, and in the interest of justice to Mr. Harry Swaney, pilot of the Charlie Clarke, whose license you suspended for sixty days on your second review of the case, on the appeal of Capt. Woodward, it is the opinion of the Department that when, in your letter to the local inspectors at Pittsburg, dated March 12, ultimo, heretofore quoted, you "set aside" the decision of those officers and ordered Capt. Woodward restored to duty, you had exhausted all the authority conferred upon supervising inspectors in such cases by section 4452 Revised Statutes.

It is further the opinion of the Department that in view of the law in the case and the rules of procedure of the board of supervising inspectors, quoted herein, that all subsequent matter contained in your letter aforesaid and all proceedings thereafter taken thereunder were null and void.

You are, therefore, directed to instruct the local inspectors at Pittsburg to restore to Pilot Harry Swaney the license suspended by them, by your direction, said restoration to be of even date with said notice of suspension by the local inspectors.

Respectfully,
L. J. GAGE, Secretary.

Mr. R. R. Crumbaugh,
Supervising Inspector, Seventh District, Cincinnati, O.

## COMMERCE OF THE WORLD IN 1899.

The following table shows the imports and exports of all countries for which statistics have been received by the Bureau of Foreign Commerce:

| Countries | Imports. | Exports. |
|---|---|---|
| United States | $ 798,845,571 | $1,275,499,671 |
| United Kingdom | 2,360,619,989 | 1,604,388,674 |
| France (special commerce) | 813,909,950 | 752,534,406 |
| Germany | 1,308,013,014 | 983,561,266 |
| Belgium (special commerce) | 406,817,945 | 342,072,621 |
| Greece[1] | 12,349,054 | 7,231,119 |
| Italy[2] | 253,596,134 | 229,417,170 |
| Austria-Hungary | 328,191,890 | 390,191,900 |
| Switzerland (spl. commerce)[3] | 153,001,485 | 134,232,690 |
| Russia[1] | 148,834,485 | 134,232,690 |
| Canada[4] | 152,021,058 | 154,083,650 |
| Mexico[4] | 50,869,194 | 64,946,246 |
| Costa Rica[4] | 4,258,896 | 5,659,218 |
| Argentine Republic[3] | 87,670 900 | 117,617,780 |
| British Guiana[4] | 6,582,778 | 8,523,318 |
| Uruguay[3] | 19,251,397 | 25,156 754 |
| British India[4] | 276,045,752 | 384,414,796 |
| Japan[5] | 86,738,587 | 87,831,878 |
| Straits Settlements[1] | 57,937,064 | 51,073,664 |
| Cape Colony[5] | 63,174,083 | 103,989 567 |
| Natal[6] | 19,534,914 | 6,521,864 |
| Lourenzo Marquez[1] | 6,401,272 | 1,496,737 |
| Madagascar[1] | 1,621,319 | 465,094 |

[1]Six months of 1899.
[2]Eleven months of 1899.
[3]Nine months of 1899.
[4]Fiscal year 1898–99.
[5]Ten months of 1899.
[6]Nine months of 1899 for imports; six months for exports.

## VISIBLE SUPPLY OF GRAIN.

As compiled for THE MARINE RECORD, by George F. Stone, Secretary Chicago Board of Trade.

| CITIES WHERE STORED. | WHEAT. Bushels. | CORN. Bushels. | OATS. Bushels. | RYE Bushels. | BARLEY Bushels. |
|---|---|---|---|---|---|
| Buffalo | 405,000 | 2,116,000 | 1,657,000 | 74,00 | 416,000 |
| Chicago | 11,886,000 | 7,049,000 | 1,868,000 | 364,000 | ..... |
| Detroit | 331,000 | 242,000 | 20,000 | ..... | 2,000 |
| Duluth | 17,463,000 | 1,523,000 | 377,000 | 259 000 | 267,000 |
| Fort William, Ont. | 3,725,000 | ..... | ..... | ..... | ..... |
| Milwaukee | 221,000 | 15,000 | 1,000 | ..... | ..... |
| Montreal | 146,000 | 65,000 | 796,000 | 24,000 | 51,000 |
| Port Arthur, Ont. | 252,000 | ..... | ..... | ..... | ..... |
| Toledo | 322,000 | 1,519,000 | 332,000 | 2,000 | ..... |
| Toronto | 64,000 | ..... | 8,000 | ..... | 48,000 |
| On Canals | 17,000 | 86,000 | 31,000 | ..... | 40,000 |
| On Lakes | 2,293,000 | 2,034,000 | 646,000 | 187,000 | 81,000 |
| On Miss. River | ..... | ..... | ..... | ..... | ..... |
| Grand Total | 52,472,000 | 21,918,000 | 7,987,000 | 1,251,000 | 1,099,000 |
| Corresponding Date, 1899 | 28,144,000 | 25 811,000 | 9 513,000 | 1,185,000 | 1,672,000 |
| Increase | ..... | ..... | 686,000 | ..... | 36,000 |
| Decrease | 2,342,000 | 2,196,000 | ..... | 28,000 | ..... |

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

THE successful bidders for dredging and blasting in the Lime Kiln passage were: The Buffalo Dredging Co., section 1, 98,000 cubic yards of rock, $4.74 per yard; section 2, James B. Donnelly, Buffalo, 86,000 cubic yards, $2.27 per yard; section 3, G. H. Breyman, Toledo, 64,000 cubic yards, $1.17 per yard; section 4, M. Sullivan, Detroit, 48,000 cubic yards, $4.70 per yard; section 5, S. O. Dixon, Milwaukee, 10,000 cubic yards, $1.35 yer yard; section 6, 61,000 cubic yards, E. J. Hingston, Buffalo, $4.50 per yard.

## SHIPPING AND MARINE JUDICIAL DECISIONS.

(COLLABORATED SPECIALLY FOR THE MARINE RECORD).

Collision—Absence of Anchor Watch.—When the master of a tug passing an anchored schooner saw the latter in time to have avoided the collision which followed, but neglected to change its course, the fact that there was an absence of a proper anchor watch on the schooner will not relieve the tug from liability. The Minnie, 100 Fed. Rep. (U. S.) 128.

Collision—Steam Vessels Crossing—Starboard-Hand Rule—A steam tug held in fault for a collision with a steam yacht, the two vessels being on crossing courses, because of her failure to observe the starboard-hand rule; and the yacht to have been justified, under the same rule, in keeping her course and speed. The Hustler, 100 Fed. Rep. (U. S.) 134.

Collision—Stationary Vessel—Negligent Navigation by Tug.—A collision between a float in tow of a tug and a steamboat lying near her dock in the East river held to have been caused by the fault of the tug in failing to keep near the center of the channel, as required by statute and by prudent navigation. The Transfer No. 9, 100 Fed. Rep. (U. S.) 136.

Act for Protection of American Seamen—Construction.—The provisions of Act June 26, 1884 (23 Stat. c. 121), for the protection of American seamen, and of the amendments thereto, apply, not only to Americans, but to all Americans whose avocation is that of mariner, whether shipping on domestic or foreign vessels. United States vs. Nelson, 100 Fed. Rep. (U. S.) 125.

Amendment of Libel.—Libelant could not be permitted, by an amendment of its libel, to claim and recover the damages alleged to have resulted from the breach of the charter on behalf of the owner of the cargoes; it not appearing that libelant acted as its agent in making the charter, or that such owner had any relation to the charter. The Habil, 100 Fed. Rep. (U. S.) 120.

Repairs or Construction.—Work done and materials furnished in fitting a steamer, which is then a seagoing vessel, for a different trade from that for which she was originally designed, are to be taken as having been furnished for repairs, and not for construction, although the expenditures therefor are large as compared with the value of the vessel. The Iris, 100 Fed. Rep. (U. S.) 104.

Shipping—Defective Vessel—Delay—Damages—Where an owner left his yacht to another, agreeing to deliver her in good condition, etc., to navigate certain waters, and yacht's shaft broke, without apparent cause, while she was proceeding slowly in a smooth sea, the owner was liable for damages resulting therefrom, in the absence of proof that the breaking of the shaft was caused by perils of the sea or unavoidable accident. Haulenbeek vs. Hunt, 63 N. Y. Supp. 404.

Collisions—Presumptions—Burden of Proof—Where fault on the part of one vessel is established by uncontradicted testimony, and such fault is of itself sufficient to account for the collision, it is not enough for such vessel to raise a doubt with regard to the management of the other vessel. Its own negligence being established, it is required to prove the other's fault with equal clearness. A reasonable doubt in regard to the conduct of such other vessel should be resolved in its favor. The Minnie, 100 Fed. Rep. (U. S.) 128.

Damages—Breach of Charter Party.—The charterer of a vessel, which he employed in bringing from a foreign port cargoes of fruit owned by another, but consigned to him for sale on commission, cannot, in an action for a breach of the charter, alleged to have caused delay and consequent injury to the fruit, recover for loss of commissions which he would have made thereon; such losses being too remote and uncertain to furnish a measure of damages or to have been within the contemplation of the parties. The Habil, 100 Fed. Rep. (U. S.) 120.

Maritime Liens—Creation by State Statutes—It is within the unrestricted power of a state to impose liens on domestic vessels for repairs made or necessaries furnished in the ports of the state; and a suit for the enforcement of such statutory lien may be maintained in a court of admiralty, although no lien would be given under the same circumstances by the general maritime law, as where repairs were made under contract with the owner in the home port, and no agreement for a lien, or mutual understanding that such repairs were furnished on the credit of the vessel, is shown. The Iris, 100 Fed. Rep. (U. S.) 104.

Admiralty—Equitable Powers—Relief Against Excessive Stipulations.—Where the claimant of a vessel seized in admiralty upon a libel for the enforcement of liens thereon, for which such claimant is not personally liable, to secure its release gives a stipulation without first having the vessel appraised, he may be permitted, on seasonable application, to show that such stipulation was given under a misapprehension either as to the nature of the obligation or the value of the vessel; and if it appears that he is equitably entitled thereto, the court should reduce the amount of the stipulation to the actual value of the vessel. The Iris, 100 Fed. Rep. (U. S.) 104.

MARINE RECORD

ESTABLISHED 1878.

Published Every Thursday by

THE MARINE RECORD PUBLISHING CO.,

Incorporated.

C. E. RUSKIN, - - - - - Manager.
CAPT. JOHN SWAINSON, - - - - Editor.

CLEVELAND, Western Reserve Building. CHICAGO, Royal Insurance Building.

SUBSCRIPTION.

One Copy, one year, postage paid, - - $2.00
One Copy, one year, to foreign countries, - - $3.00
Invariably in advance.

ADVERTISING.

Rates given on application.

All communications should be addressed to the Cleveland office,
THE MARINE RECORD PUBLISHING CO.,
Western Reserve Building, Cleveland, O.

Entered at Cleveland Postoffice as second-class mail matter.

CLEVELAND, O., MAY 3, 1900.

## THE SURVEY FOR A 1,000-TON BARGE CANAL ACROSS THE STATE OF NEW YORK.

The $200,000 survey, which is to be made by the State Engineer Department during the present season, will require a large number of civil engineers, levelers, rodmen, chainmen, borers and helpers, all of whom have been, or are to be, selected under the civil service rules.

To get the best results in this survey it is necessary to have a uniform method of records and field notes, and in order to decide upon the simplest and most effective method State Engineer Bond has recently appointed a Board of Engineers to examine and consider the "Instructions for Survey Parties," which have recently been prepared by Trevor C. Leutze and D. J. Howell, consulting engineers for the canal survey. The Board of Engineers thus appointed consists of five well known civil engineers, all of whom are members of the American Society of Civil Engineers, and have also had extended experience in such matters. They are as follows:

Geo. S. Greene, Jr., former chief engineer of the Department of Docks, of New York City, and who was made chairman of this Board.

Edward P. North, formerly in charge of all roads and highways of New York City, and more recently engineer of the canal investigating committee.

George Y. Wisner, of Detroit, member of U. S. Deep Waterway Commission.

Palmer C. Ricketts, director of the Troy Polytechic Institute.

Nelson J. Tubbs, consulting engineer of Rochester, N. Y., who has been intimately connected with the canal system of New York State for 45 years, and who is most familiar with all its features, and whose advice is highly valued, but who was prevented by illness from being present.

The board met on the morning of April 30th, State Engineer and Surveyor Bond and Consulting Engineers Leutze and Howell being present. The board considered and discussed the prepared "Instructions for Survey Parties," and adopted them after making certain alterations and amendments.

The Board then adjourned.

---

THE tonnage of vessels entered at ports in the United Kingdom from foreign countries and British possessions, with cargoes, during March, 1900, amounted to 2,782,387 tons, and the tonnage cleared to 3,712,773 tons, as against 2,860,422 tons entered and 3,507,867 tons cleared in March, 1899. With regard to the coasting trade, the tonnage entered with cargoes during March, 1900, amounted to 2,763,112 tons, and the tonnage cleared to 2,773,768 tons, as against 2,688,385 tons entered, and 2,632,234 tons cleared in March, 1899.

## TRIMMERS AND SHOVELERS.

While the 'longshoremen all along the lakes have been organizing and forming combines whereby they can strike for higher wages and compel the Lake Carriers' Association to do other things beneficial to the workmen, a strong feeling has been growing up among the Lake Carriers that in one point, at least, there is good cause for opposite action being taken. It is a firm belief that in time to come the grain shovelers and the ore trimmers will be forced to agree to a wage rate. One well-known Detroit vessel man says: "When the boats load under the ore docks or at the elevators, a large portion of the cargo shoots into the hold of the boat and levels itself. As the vessel gets full up near to the hatches, then it is time for the trimmers or shovelers, as the case may be, to step in and even off the load so that it may not shift from side to side. Only the mere top of the cargo has to be so treated, and why should the trimmers and the shovelers be paid at an average rate of four cents a ton on the entire cargo? It is generally felt that there is not sufficient cause to spring this reform on the 'longshoremen at once, but in time it is felt that it will come and the union men are expected to take the matter gracefully."

## A BRISK SEASON EXPECTED.

The opening of navigation on the Great Lakes finds all the mines, railroads, and vessels prepared to handle the greatest amount of iron ore ever transported in a single year. All records were broken last year, and the figures of 1899 will be greatly exceeded during the coming season.

Last year the shipments aggregated over 18,000,000 tons. They will certainly reach above 20,000,000 tons in the season now at hand. Some of the iron men even predict that the figures will go as high as 25,000,000 tons. New mines will be added to the list of shippers, and nearly all the old mines will largely increase their output. The two Minnesota ranges will show large increases. Last year the Mesaba range led all others, and it is thought its shipments this summer will again head the list. Every range showed an increase in 1899 over 1898, as will be seen by the following figures:

| | 1898. Gross tons. | 1899. Gross tons. |
|---|---|---|
| Marquette | 3,125,039 | 3,757,010 |
| Menominee | 2,522,265 | 3,301,052 |
| Gogebic | 2,498,461 | 2,795,856 |
| Vermilion | 1,265,142 | 1,771,502 |
| Mesaba | 4,613,766 | 6,626,384 |
| Total | 14,024,673 | 18,251,804 |

Thus it will be seen that the Mesaba range, which in 1898 contributed 32.90 per cent of the Lake Superior shipments, shipped 36.30 per cent of the total last year, increasing its output 43.62 per cent. The Vermilion range showed an increase of 40.02 per cent.

Last season Two Harbors led the list of ore-shipping ports, with Escanaba second and Duluth third. It is likely that Duluth will show the biggest shipments at the close of navigation this year. Following is a table showing the total shipments last year by ports with percentage of total shipments of each in 1898 and 1899:

| | Total shipments in gross tons. 1899. | Percentage of total shipments. 1898. | 1899. |
|---|---|---|---|
| Escanaba | 3,720,218 | 19.99 | 20.38 |
| Marquette | 2,733,596 | 16.01 | 14.98 |
| Ashland | 2,703,447 | 17.05 | 14.81 |
| Two Harbors | 3,973,733 | 19.20 | 21.77 |
| Gladstone | 381,457 | 02.40 | 02.09 |
| Superior | 878,942 | 03.92 | 04.82 |

## NETS TO BREAK THE FORCE OF WAVES.

An Italian, Baron Benvenuto d'Alessandro, has invented a new method of protecting vessels at sea, entrances to harbors, light-houses, etc., from the force of waves and surf, which he claims is more efficient than the use of oil.

His invention consists in retaining on the surface of the water an unsubmergible floating net by means of outriggers when used to protect vessels in storms at sea, and by attaching it to buoys when used to protect light-houses, hydraulic works in construction, entrances to harbors, etc.

He bases the idea of his invention upon the principle that in covering the surface of the sea with a thin, flexible, light and floating body of whatever nature, the part covered forms a crust under which the molecules of the imprisoned mass of water cannot move in the same manner as the surrounding body of uncovered water, the result being that even the most violent waves, upon reaching the edge of the crust, instead of climbing over it, of breaking or of destroying it, will pass under it as if there was a fall or difference of level, become flattened out and loose much of their force.

## THE CONNERS SYNDICATE.

The Conners syndicate has issued a prospectus giving the details or its plans with regard to the rights recently acquired at Montreal. It sets forth that the Canadian Inland Transportation Co. is authorized to issue stock to the amount of $4,000,000 and may issue bonds secured by mortgage. The company proposes to buy the franchises secured by the Conners syndicate. Stocks to the amount of $3,000,000 and $1,000,000 of bonds are to be issued to pay for this franchise.

The Conners syndicate is to turn over to the trustees for the benefit of the company, $1,500,000 of its stock; also, the $1,000,000 bonds. The remaining $1,000,000 of stock is offered for subscription at par. Each subscriber for these shares shall receive in addition to his subscription from the Conners syndicate bonds to the amount equal to his subscription. The avails of the sale of this stock are to be used in the erection of elevators, warehouses and general equipment of this plant. To provide for the future expansion of the company it is proposed to authorize a total bond issue of $4,000,000, twenty years at 5 per cent., but of which only $1,000,000 is to be now issued to the syndicate as aforesaid, and which is to be distributed among subscribers of stock; the remaining $3,000,000 to be issued only by the corporation, as the necessities of the company may require for the enlargement of its plant.

The prospectus continues: "The lowest average rate on grain for any one month during the last ten years from Duluth to seaboard was 4 cents per bushel. A steamer and two barges operating between Duluth and Montreal will carry 250,000 bushels. At 4 cents per bushel this would result in gross earnings of $10,000. The charges against this would be: Operating expenses, $200 per day, twenty days for round trip, $4,000; shoveling charges, $3 per 1,000 bushels, $750; elevator charges, Montreal, 1½ cents per bushel, $250; towing through canals, $200; total, $6,200; net earnings per trip, $3 800. Estimating seven months for a season of navigation, which is very conservative, a tow could easily make ten and a half trips each year, which would show an earning capacity of $39,900 for each tow and seven tows would earn $279,300, or 10 per cent. interest on the cost of ships, namely, $2,695,000, as below. As shown above, our elevators will be paid for the use of steam shovels, and the charges will not be less than $1 per 1,000 bushels of grain the first year at Montreal.

Estimating conservatively we will handle 30,000,000 bushels. The revenue from this will be $30,000, or more than the entire cost of operating the elevator. The charges of ½ cent per bushel for elevating at Montreal would bring the company $150,000. At Port Colborne we would handle 20,000,000 bushels of grain, and the earnings from elevating at ½ cent per bushel would be $100,000 net, the revenue from the shoveling charges paying for the cost of operating. At Montreal we would haul through the warehouses of the company not less than 500,000 tons of merchandise or package freight. The earnings would not be less than 20 cents per ton, or $100,000 for a season, making the next earnings in the aggregate $830,300.

"The total cost of our plant would be as follows: Seven steamers at $165,000, $1,155,000: fourteen barges, at $110,000. $1,540,000: elevator and warehouse at Port Colborne, $400,000: elevator and warehouse at Montreal, $900,000: total, $3,995,000. The above figures are all based on the lowest freight rates on record. The lowest known rate from the head of Lake Superior to ocean points is 12½ cents per 100 pounds. Assuming that we could get 10 cents, or $2 per ton, our ships will carry 2,500 tons, a tow carrying 7,500 tons, would bring earnings, gross, $15,000. The charges against this would be: Operating expenses, $200 per day, twenty days for round trip, $4,000; towing through canals, $200; freight handling charges, 50 cents per ton, $2,250; total, $6,450; total earnings, $8,550. Ten and a half trips each season, each tow would earn $89,775; seven tows would earn $638,425, thus showing that boats in the package freight business would earn $148,225 more than if engaged in carrying grain. This would put the freight sorted and piled in the warehouse at Montreal, and we can load the trans-Atlantic steamers at one-third less cost than is charged at any seaport in the United States. The foregoing propositions are based on no return cargo from Montreal to western ports, but several ocean lines are endeavoring to enter into traffic arrangements whereby huudreds of thousands of tons of freight will be delivered to us at Montreal each year."

---

A canal between Lake Michigan and the Illinois river has been approved by the Senate Committee on Commerce.

## VESSEL BAROMETERS.

Marine Agent Norman B. Conger, of the Weather Bureau, announces that as usual vessel men may have their barometers tested free of charge at any weather office along the lakes. At the "Soo," however, special attention will be paid to keeping the barometers correct, and an official will be at the locks all the time to compare vessel instruments with a standard instrument.

At other ports it is necessary for vesselmen to leave their aneroid barometers with the Weather Bureau for some hours to be compared with the standard mercurial instruments, and frequently some days are required to correct a disordered machine. At the "Soo" the official merely goes aboard the vessel, as it is being locked through, and compares the vessel instrument with an aneroid barometer corrected to the standard gauge, and if any correction is to be made it is done. On the return of the steamer the instrument is again compared, in this way finally regulating the instrument without taking it away from the boat. During the season it will be the aim of the bureau to put in correct condition the barometer of every boat passing through the locks.

Another privilege afforded vesselmen is the free use of 40 barographs, or self-registering barometers, which the Weather Bureau distributes among the lake boats in return for the records at the end of the season, which form invaluable data concerning the atmospheric changes over the lakes. The barograph contains a clock-work arrangement whereby a strip of paper is slowly revolved under a delicate needle attached to a barometer. Every fluctuation of the atmosphere is recorded, and as the paper is divided into days and hours, the complete roll, together with the location of the boat each day, forms a record of the conditions of the air. It is the practice to distribute the machines so that each representative lake line may have one. Last year very valuable records of the tidal wave that swept over Lake Superior were obtained in this way.

## A NOVEL BOAT.

Early in May, the improved R. D. Mayo life-boat, now being built at Manistee, Mich., will be started on its journey across the Atlantic for Paris, where it will be placed on exhibition at the exposition. This device is an improvement upon the working model, which was satisfactorily tested and brought before the United States Board of Supervising Inspectors of Steamboats in January last. The boat is nearly ready for the water and is attracting much attention from men who have made a study of life-saving devices.

While marking a radical departure from the style of construction of the open life-saving boat now universally in use the new boat has elicited much favorable comment. A description of this device may be summarized by saying that it resembles in appearance a long barrel with rounded, conical ends. It presents a smooth, unbroken surface to the water and has a buoyancy that will keep it safely on the surface of the water under all conditions, where it may be allowed to drift in a heavy sea or be propelled by oars when the conditions will permit, without danger or discomfort to the occupants.

The most interesting feature of this device is the interior construction, which consists of an inner shell so suspended from bulkheads in the middle and at either end of the boat that the living compartments, like the cars of the Ferris wheel, remain in an upright and practically stable position regardless of the motion of the outer shell or its position in the water. The boat now being built is 30 feet in length over all and will occupy about the same space on ship deck that the ordinary 28 foat life-boat does. It will accommodate 52 passengers, which equals from two to three times the capacity of the old style boat, and is said to be just as seaworthy when loaded to its limit as when empty.

MORE than a hundred models and plans of a workable life-saving device in case of a disaster at sea have been submitted by Americans in competition for the Pollock prize of $20,000, which is to be awarded during the Paris Exposition. Some of these devices, the work of naval experts, are said to be exceedingly clever, including a superior kind of life buoy; a water-tight bulkhead, which may be closed by means of electricity at a distance; a life-boat that can be swung clear of a ship and easily detached from it, and an eophone sound detector that enables signals or warnings to be heard clearly a great distance, even in the foggiest of weather. Reward and fame never can be merited more fully than by the man who succeeds in diminishing "the perils of the great deep."

## OBITUARY NOTICES.

### ROBERT C. TEUTON.

Robert C. Teuton, one of Detroit's old residents, and a well-known business and vessel man, died at his home, 157 Congress street west, this week, of Bright's disease.

Mr. Teuton was born in Belfast, Ireland, 57 years ago, and came to America with his parents when but a boy. For many years he was senior partner in the firm of Teuton, McWilliams & Co., grocers and ship suppliers, at the corner of Woodbridge and Second streets. An explosion wrecked the store some years ago, and the partners went into the vessel business, organizing the Wayne Transportation Co., of which the deceased was secretary. A widow and one son, Walter G., survive, together with two sisters, Mrs. James Findlater and Mrs. Percival Todd, living in Detroit; two more sisters in New York, and two brothers, Edmund, in Chicago, and Frederick, of Pittsburg.

### CAPT. EDWARD M'GOWEN.

Capt. Edward McGowen, one of the early sailors of the lakes, died at his home at Port Huron, aged seventy-four years. He had been in poor health for some time, the immediate cause of death being paralysis. Deceased was born in Ireland, came to this country when three years of age and settled in Port Huron in 1842. He began sailing when only ten years of age became master of the schooner Buckley. He followed the lakes until within a few years, when he retired owing to ill health. A widow and ten grown up children, four sons and six daughters, survive him.

### CAPT. RICHARD A. DAVIS.

Capt. Richard A. Davis, a veteran master of vessels, died at Chicago on Saturday. Deceased became captain of the schooner Seminole in 1844. In 1858 he assumed command of the Young America, and during his lifetime had no less than forty issues of shipmaster's commissions, and was the possessor of the oldest license on the lakes.

## SHIP BALLOONS.

Should the submarine boat take the place in naval warfare that some nations expect, one of the chief precautions taken by the world's navies will be an immense increase in the number of balloons, with duly trained staffs to work them, carried by war vessels. The balloons carried by these battleships are of exactly the same material and pattern as those in use in the army, only smaller. They have a use far in advance of any mere long-distance observational purpose, for, though the wake of a submarine boat suuk deeply in the water can only be traced with difficulty from such an elevation as that afforded by a ship, both such wake and the boat itself can be seen with absolute and undeviating clearness from a captive balloon. This is the result of a scientific and optical law, and when ship balloons were first put to the practical test in regard to this matter, the results attained were of the most surprising kind. Even where the water is distinctly cloudy, objects of a much smaller kind than a submarine boat, and painted of neutral color, could be seen from a balloon with the utmost clearness at a depth of five fathoms, or thirty feet, though the surface was rough. No submarine boat could in the daytime get within striking distance of a threatened ship that had a balloon without being observed.

THE rapid growth of the copper industry in the United States, and the large proportion which this country supplies of the world's copper consumption, is illustrated by some figures presented by a German publication entitled "A Century of Copper," a translation from which has just reached the Treasury Bureau of Statistics. It shows that the United States has during the decade—1891-1900—produced more than half of the copper of the world, while in the preceding decade it supplied but about one-third of the world's production, and in the decade 1871-1880 the proportion supplied by the United States was only about one-sixth of the total. The growth of copper production in the century has, according to this statement, been very rapid, being in the first decade 91,000 tons, in the fifth decade 291,000 tons, and in the tenth, which ends with 1900, 3,643,000 tons, of which 1,963,000 tons is supplied by North America, the large proportion of this being from the United States. The greatly increased demand for this material is further illustrated by the fact that although the production has increased from 505,909 tons in the decade 1851-1860, to 3 643,000 in the decade 1891-1900, the average price, according to the publication in question, has only fallen from £111 per ton to £52 per ton, production having during that time increased more than sixfold, while the price fell but about one-half.

## FLOTSAM, JETSAM AND LAGAN.

The tug Wisconsin, formerly of Ashtabula, has been purchased by the Maytham Tug Co., of Buffalo, and will be stationed at Sault Ste. Marie.

The Committee on Interstate and Foreign Commerce has reported favorably on the proposition to increase the salary of surfmen at the life-saving stations on the lakes from $65 to $70 a month.

The crib of the East Middle light No. 12 (showing a fixed red lantern light) on the eastern edge of lower Hay Lake cut has been carried away by the ice. No light will be shown in this position until the crib can be reconstructed.

The new survey of the Great Lakes is not to interfere with the survey made by the army engineers' bureau, says Admiral Bradford, but to discover isolated rocks and obstructions of small superficial area, a work which requires the use of a drag, which is only understood by nautical men.

The Montreal harbor board has declined to accept the plans of the Conners syndicate for the improvement of the harbor on the ground that they showed a building with a capacity of 1,000,000 bushels instead of 3,000,000, as agreed upon in the contract between the syndicate and the commissioners.

Every sawmill in the Duluth district is at work and sawed lumber is increasing on docks at the rate of 4,000,000 feet daily. Those of the mills located on deep water sold last fall and early in the winter some 250,000,000 feet that must be shipped at once. Rates of shipment by water hold firm at $3, although shippers are trying hard to get a $2.75 figure.

The Donnelly Contracting Co., of Buffalo, has secured two contracts for the extension of the breakwaters at Ashtabula and Lorain. The Ashtabula bid was $410,292, and the Lorain bid $635,519. This company now has on hand more than $1,600,000 of United States government and state work, including harbor work at Fairport, Conneaut, Erie, Buffalo and Cape Vincent.

Building has begun by the Steel Ship Building Co., of Collingwood, Ont., the company in which Capt. McDougall is interested, and which has taken the plant of the old Collingwood Dry Dock Co., on a bonus agreement with the city. A complete equipment of machinery will be installed and then work can go on with four vessels at once. One will probably be completed this year.

During its survey work the Deep Waterways Commission secured invaluable data concerning the Mohawk Valley. The state of New York in preparing its data upon the proposed new canal, has been accorded the privilege of copying the Mohawk Valley data, a saving to the state of nearly $200,000. D. J. Howell, formerly in charge of the New York state work of the Deep Waterways Commission, and who is now employed by New York, is here with a staff of assistants to secure the copy of the data.

Some of the leading colleges are to be honored in the naming of the six large steel vessels that are building at works of the American Ship Building Co., for the Pittsburg Steamship Co., which is the corporation controlling Carnegie vessel property on the Great Lakes under the direction of Mr. Edwin F. Mills, of Cleveland. The first of these vessels, a steamer to be launched about May 5, will be named Harvard. Then will follow the names Lafayette, Princeton, Cornell, and very probably Columbia for the other four steamers to come out in the middle and latter part of the season. The one steel tow barge in the new fleet will be named Bryn Mawr.

Toronto papers announce the consummation of the deal between Capt. McDougall, of Duluth, the Cramps, of Philadelphia, and the town of Collingwood, Ont., by which immense smelting, steel, iron and shipbuilding works are to be established on Georgian Bay. The town grants a free site of more than eighty acres for the works, undertakes to keep the minimum depth of eighteen feet of water for a shipyard front, to give a cash bonus of $150,000, to fix the assessment at a low figure for twenty years, and to supply water and light at a figure to be agreed upon. The syndicate undertakes to employ not less than 600 men regularly for a period of twenty years, to construct works of latest design, and to pay the school tax in full. Government sanction of the scheme has been recorded.

THE Board of Construction of the Navy is having considerable difficulty in deciding on the details of the three new battleships authorized and now under consideration. Although the board has been working on the plans for these ships for several weeks, little of a definite character has yet been decided relative to the essential parts of the vessels except that they will not have superimposed turrets. Practically all the members of the board are opposed to this style of turret, and it is safe to state no other vessels will ever be given this method of heavy gun installation. There have been several plans suggested for the batteries of the new ships, but it is probable they will be given practically the same armament as the Iowa and other vessels of her class. The batteries will comprise four 12-inch guns in two turrets, one fore and one aft; eight 8-inch in four turrets just abaft and forward of the 12-inch turrets, and the guns mounted in pairs, and twelve 6-inch guns in broadside. As soon as the board has decided upon the plans for the battleships it will begin the consideration of the authorized armored cruisers.

**Chicago Nautical School**

1513 Masonic Temple,
CHICAGO.

W. J. WILSON,
(Late Lieutenant U. S. Navy),
Principal.

A full and complete course of instruction in lake and ocean navigation. Also special branches taught those desiring to qualify themselves for better positions in the marine service. $200 in prizes (Great Lakes Register) awarded annually to students. Students taught by correspondence. Students may begin at any time. Send for circular.

**Pintsch Gas Lighted Buoys.**

Adopted by the English, German, French, Russian, Italian and United States Light-House Departments for channel and harbor lighting. Over 1,000 gas buoys and gas beacons in service.

**Burn Continuously**

from 80 to 365 days and nights without attention, and can be seen a distance of six miles. . . . . .

Controlled by

**THE SAFETY CAR HEATING AND LIGHTING CO.**

160 Broadway, New York City.

**BAINES BROS.**
PROVISION MERCHANTS AND SHIPPERS OF
BEEF, MUTTON, PORK & POULTRY
LARD, SAUSAGE, ETC
VESSEL SUPPLIES A SPECIALTY
43, 44 & 45 ELK STREET MARKET
BUFFALO, N.Y.
PHONE SENECA 346

Cleveland Telephone.
Glen. 87 F.

**CHAS. R. DITTRICK,**

SUBMARINE DIVER

Day or Night Calls Answered Promptly.

21 Everton Street,
GLENVILLE, O.


## NOTICE TO MARINERS.

DOMINION OF CANADA—ONTARIO.

I. PELEE SPIT LIGHTHOUSE AND FOG ALARM DESTROYED BY FIRE. The lighthouse and fog alarm at Pelee Spit (the dummy), in the westerly part of Lake Erie, were destroyed by fire to-day. Until some better arrangement can be made, a fixed white light will be shown from a lens lantern hoisted on a pole, on the remains of the pier, but it will not be possible, for some time, to establish a fog alarm.

II. RANGES FOR OBTAINING COMPASS ERRORS AT PORT DALHOUSIE DISCONTINUED. The ranges established by Staff Commander Boulton, R. N., at Port Dalhousie, on the Welland canal, in 1884, by which vessels using the canal cou'd ascertain errors in their compasses, as described in Notice to Mariners No. 7 of 1884, have not been maintained and are not now in existence.

UNITED STATES OF AMERICA—NORTHERN LAKES AND RIVERS.

The following notices have been issued by the United States Hydrographic Office, affecting inland waters through which the International boundary line passes:

III. DETROIT MARINE POST OFFICE REGULATIONS. The following regulations governing conduct of the Detroit marine post office come from the postmaster at Detroit:

It will be necessary for boats desiring to receive or deliver United States mail to enter the American channel, but only at the point of delivery.

The station is located at the foot of First street and deliveries will be made as nearly opposite that point as possible by a steam launch and small boat, the service being a continuous one day and night.

The prompt delivery of telegrams, by special messenger, may be had by attaching a 2-cent postage and a 1-cent revenue stamp to the same. In case stamps are not at hand, the equivalent in money may be handed the carrrier, and the requisite stamps will be put on the message at the marine post office.

Mail for delivery from the marine post office should be directed to the marine post office, Detroit, Mich., and deliveries will be made throughout the entire period of navigation.

When mail is delivered to vessels for persons not aboard, captains will please remail the same to the marine post office, Detroit, Mich., from the first port they touch at. No extra postage required. It is suggested that upbound boats remail at Sault Ste. Marie and down boats at any Lake Erie port.

Captains will please instruct members of their crews to give prompt notice of change of address. When giving change of address, give old as well as new address.

The signal to passing boats from the U. S. mail boat for the delivery of mail will be one long whistle, one short whistle, one long whistle.

Signal for steam vessels wanting the mail boat to call for mail, one long whistle, one short whistle, one long whistle.

Captains are requested to blow signal for mail boat at night and at any time the mail boat is not in sight.

Signals for sailing vessels requiring mail boat, white flag by day, flashing bright light at night.

Signal for mail boat to large boats to check down, three blasts of mocking-bird whistle.

Signal from row-boat belonging to mail boat when approaching vessels for delivery of mail, white flag in day time, swinging bright light at night.

I. BUOYAGE OF THE APPROACHES TO MIDLAND HARBOR. During the past season four of the principal buoys in the approaches to Midland harbor, Georgian Bay, Ontario, were replaced by extra large spar buoys. On the opening of navigation this year the following seven spar buoys will be placed and maintained:

1. An extra large red buoy off Lottie Wolf Rock, moored in 22 feet of water N. 27° W., one mile from Hope Island lighthouse, and N. 18° W. 1,200 feet from the shoalest spot of 9 feet. This replaces the buoy described in Notice to Mariners No. 49 of 1894.

2. An extra large black buoy off Giant's Tomb lighthouse. It is moored S. 53° W. 2,400 feet from the lighthouse, in 22 feet water. It lies 900 feet north of the new Brebeuf range.

3. An extra large red buoy off Sawlog Point. It is moored in 24 feet water N. 4° E. 2,500 feet from Sawlog Point and 500 feet south of the same range.

4. A black buoy off the south-west side of the 13-ft. rock which lies S. 41° W. 1,500 feet from the nearest part of the western Gin Island. It is 1,200 feet east of the new Midland Point range. This buoy was first placed in 1899.

5. A red buoy N. 80° E. 2,400 feet from the sand cliff on Pinery Point. It is moored in 20 feet water, 1,100 feet west of the same range.

6. A black buoy south-west of Candlemas shoal. It is moored in 15 feet water and is 2,000 feet east of the range.

7. An extra large red buoy off the east side of Midland Bay shoal. It is moored in 20 feet water S. 35° W. 5,700 feet from Midland Point, and N. 36° E. 5,500 feet from the old or small elevator. This buoy may be rounded close to on the south-east side.

The extra large buoys mentioned above stand from 10 to 13 feet out of the water; the ordinary spar buoys stand not less than 6 feet out of the water.

All bearings are magnetic. Var'ation in 1900, 6½° W.

II. CHANGES IN LIGHTING THE APPROACHES TO MIDLAND HARBOR. The two pairs of beacons referred to in Notice to Mariners No. 23 of 1899, will be shortly replaced by two pairs of range lights. The lighthouse heretofore maintained on Gin Island will be removed to Brebeuf Island, to serve as the front light of the outer range which will be known as the Brebeuf range.

On the opening of navigation this year the light on Gin Island will consequently be permanently discontinued, and a temporary light will be maintained from the position of the beacon on Brebeuf Island, until the completion of the removal of the lighthouse to Brebeuf Island, when a permanent light will be shown from the lighthouse in its new position.

The light will remain, as heretofore, fixed white.

---

LIGHT-HOUSE ESTABLISHMENT,
OFFICE OF THE LIGHT-HOUSE INSPECTOR, 10TH DIST.
BUFFALO, N. Y., April 28, 1900.

Notice is hereby given that the inner buoys Nos. 3 to 8 inclusive, channel into Presqu'ile Bay, Erie Harbor, Pennsylvania, may be temporarily shifted or removed altogether from their correct positions, as given in the buoy list during the season of navigation, 1900, in order that the dredges employed in deepening and widening the channel may work in the vicinity of the buoys mentioned.

FRANKLIN HANFORD,
Inspector 10th L. H. Dist. Commander, U. S. N.

---

LIGHT-HOUSE ESTABLISHMENT,
OFFICE OF THE LIGHT-HOUSE INSPECTOR, 9TH DISTRICT,
CHICAGO, ILLINOIS, April 27th, 1900.

Notice is hereby given that this office is advised of a shoal, about 4 miles S. S. W. from Skilligallee light station, Mich., with but 15 feet of water over it.

The shoal will be surveyed and buoyed as early as practicable.

By order of the Light-House Board:

F. M. SYMONDS,
Commander U. S. Navy,
Inspector 9th Light-House District.

## HYDROGRAPHIC OFFICE NOTES.

LAKE MICHIGAN—GREEN BAY—ELBOW BEACON LIGHT INCREASED ARC OF VISIBILITY.—On or about May 1, 1900, the fixed red lens-lantern light at the elbow and on the eastern side of the dredged channel, between Grassy Island and the mouth of the Fox river, southern end of Green Bay, will have its arc of illumination increased from 180° to 270°, and will then be visible from all points in the dredged channel between Grassy Island and Murphy's dock.

LAKE MICHIGAN—HOLLAND (BLACK LAKE) ENTRANCE DEPTH—Information, dated April 14, 1900, has been received from Mr. Adam Weckler, keeper of the Holland life-saving station, that the United States Engineers have completed a survey of Holland Harbor, and soundings obtained from them show that the best water entering the harbor is straight in 60 feet south of North pier, then 40 feet south of the same pier through the harbor. On this range there is 11½ feet of water.

LAKE MICHIGAN—LUDINGTON HARBOR ENTRANCE—DEPTH IN CHANNEL.—Information, dated April 14, 1900, has been received from Mr. Peter Jensen, keeper of the Ludington life-saving station, that there is 18 feet of water in the channel between the piers through a width of about 100 feet. The best water outside is southwestward of the entrance.

Vessels entering Ludington harbor should keep the south pier well aboard until inside, then keep in center of channel.

LAKE HURON—THUNDER BAY—LOW STAGE OF WATER.—Mr. John D. Persons, keeper of the Thunder Bay Island life-saving station, reports, under date of April 10, 1900, that the water in the lake is very low. In places where the charts give 5 and 6 feet of water on shoals between Gull island and the mainland, it is almost bare ground in places.

LAKE ERIE—CANADA—PELEE SPIT (THE DUMMY) LIGHT-HOUSE DESTROYED.—Information, dated April 18, 1900, has been received that the Pelee Spit (The Dummy) light-house has been destroyed by fire.

LAKE ERIE—CONNEAUT HARBOR—RANGE LIGHTS INCREASED IN INTENSITY.—The intensity of the lights of the range for entering Conneaut harbor, southern shore of Lake Erie, and on the western pier at the entrance to the harbor, will be at once increased by changing both to lights of the 5th order.

No other change will be made.

NOTE—This increase in intensity of the lights increases the distance from which they may be seen.

LAKE ERIE—BUFFALO—SOUTH PIER LIGHT-HOUSE—COLOR OF TOWER ALTERED.—On the opening of navigation the color of the tower at the light-station on the south pier at the entrance to Buffalo harbor, eastern end of Lake Erie, will be changed from gray to white.

## MARITIME LAW.

John D. Sloane of Dubuque, Ia., supervising inspector of the fifth district, has reversed the ruling of the Duluth inspectors. His letter on the subject to Messrs. Monagham and Chalk, dated the 9th inst., goes into the case fully and is as follows:

"On Dec. 12, 1899, you suspended the license of Capt. William J. Hunt for a period of one year, commencing Dec. 12, 1899, and ending Dec. 11, 1900, for alleged violation of that portion of Rule VI which refers to vessels being navigated in crowded channels or the vicinity of wharves with great caution. It appears that on the date of the alleged violation the steamer James B. Neilson entered the harbor at Duluth, Capt. W. J. Hunt in command, and was being assisted to her dock by the tug Record, Capt. Wm. C. Burnett in command. That when the vessels had arrived at a point 3,700 feet past the bend, or about opposite the new elevator, the Neilson ran up on the stern of the Record, rolling her down so that she filled and sank. It is claimed by witnesses on the tug that the steamer Neilson was being navigated at an excessive rate of speed, estimated at 11 miles an hour, but the witnesses of the Neilson claim she was not running to exceed 5 miles an hour at the time the accident occurred.

"Under date of Dec. 10, 1899, I received from Capt. Wm. J. Hunt notice of appeal from the decision of the local board at Duluth; also a communication wherein he expressed himself satisfied with the manner in which the investigation was conducted by you, that he had no additional testimony to offer, and that he would abide by any decision I might arrive at, based upon the testimony submitted. On April 7, 1900, I visited Duluth and examined Mr. R. F. Barrows in the engine-room of the tug Record, in the presence of Capt. Wm. J. Hunt and William C. Burnett, and it was practically demonstrated by the evidence that it was impossible for Mr. Barrows, the engineer, while on his knees in the act of oiling the machinery to even reach the lever when the throttle valve was open its full capacity.

"After a careful examination of the testimony I find that Capt. William J. Hunt, of the steamer James D. Neilson, exercised due precaution by stationing himself on the top of

the pilot house, the mate on the forward turret, which position gave him an unobstructed view of the harbor and its surroundings. The captain asserts that the rate of speed of the Neilson did not exceed 5 miles an hour at the time of the collision. This statement is corroborated by the mate, wheelsman and chief engineer. The time of leaving the piers shown by the log of the Neilson, was 5:20 a. m., and the time of the accident 5:45 a. m., and the distance as given on United States engineers' map of Nov. 17, 1899, is 8,970 feet, or 1.69 miles from piers to point where accident occured, so that the average rate of speed was 4.05 miles an hour. In addition, the captain, wheelsman, chief engineer and oiler of the steamer Neilson, who were on whatch, all swear that the rate of speed was not increased after entering the harbor.

"The after ballast tank only being filled, leaving three empty, depressed the stern of the Neilson, which resulted in elevaing the steamers high and protruding overhang, peculiar this type of vessel (whaleback) at the end to a distance to above the water variously estimated by Capt. Hunt and by Capt. Burnett at 18 to 25 feet, being at least 15 feet above the deck or stern of the Record. Under these conditions, Capt. Hunt swears he was unable to see the Record from his station on top of the pilot house. The mate also states that the position of the Record was not visible and that he could not see the Record when dead-ahead; also asserts that the Record dropped back under the bow of the Neilson 40 feet; when he discovered the position of the tug, he immediately passed word to the captain to go slow and give her a turn back, and from the movement of the boat the engines must have been reversed. The statements of the enginer and oiler show that the engines were stopped and backed strong, above five or six revolutions. At no time was the Neilson signaled to check her speed. Capt. Burnett of the tug Record states that the Neilson was increasing her speed from the time she passed the Ohio coal dock to the time of the accident; consequently it was necessary for him to increase his speed in order to keep out of the way of the Neilson. The distance from the Ohio coal dock to the point where the accident occured is 3,700 feet, taken from United States Engineers' map, or $\frac{7}{10}$ of a mile. At a constant rate of speed of 11 miles an hour, the time required to make this distance would be 3.81 minutes, time sufficient to have either checked the speed of the Neilson, or to have dropped back with the line dragging, which maneuver Capt. Burnett contemplated executing if the Neilson ignored the signal to check in passing of a dredge in the channel. Instead of giving the Neilson a check signal, or throwing his wheel hard over one way or the other, avoiding the direct course of the Neilson, and again shifting the wheel to bring the tug parallel to and outside of the path of the steamer, which action would have obviated the danger, Capt. Burnett made no effort whatever to determine the position of the Neilson. Said action can only be justified by the fact that he did not consider the rate of speed at all dangerous. He admits that there was an unobstructed view from the pilot house of the tug Record aft; that he could not see over the bow or forward turret of the Neilson; that the captain of the Neilson would not be able to see the tug if he stood in the center of the pilot house (pilot house of the Neilson estimated to be 10 to 12 feet athwartships and 250 to 280 feet aft); that he did not even look aft to ascertain the position of the steamer or to locate the captain; that he knew it was his privilege to check the steamer by signals or whistles, and that, in fact, it was his intention to do so, on account of a dredge some distance ahead, which they were not allowed to pass at a speed exceeding six miles an hour. Quoting his exact words: "I intended to check her down, and if the steamboat would not check down I would have dropped back with the line dragging so as to show the man on the dredge I was not to blame; and further that the engines were being operated to their full capacity, throttle valve wide open the speed of the tug being about 11 miles an hour, which statement is corroborated by the engineer. I am of the opinion that had the throttle been open to its fullest capacity at any time, Capt. Burnett's attention would have been directed to it, as was that of the mate of the Neilson, who noticed the tug's exhaust suddenly increase in intensity, and in looking over the bow of the Neilson saw the tug under the bow, demonstrating the fact that the throttle was not opened wide until the engineer, who was on his knees in the engine room oiling the machinery, felt the shock of the collision, the first indication to those on the Record that the line was slack. He immediately sprung to his feet, looked out and discovered that the Neilson had lapped on the stern of the Record. Engineer R. F. Barrows, of the tug Record, in his examination before you on Oct. 10, 1899, positively asserted: "When I was on my knees I had my hand on the throttle and she was wide open and working all right." On April 7, 1900, Mr. Barrows swore that it was impossible for him to reach the throttle when same was wide open and he on his knees, which latter evidence is corroborated in a conclusive manner by the experiment relative thereto mentioned in a former part of this report.

"The only person connected with the tug who watched the tow line (50 feet in length) was the engineer on watch. He also admits it is the privilege of the tug man to blow check whistles to the steamboat in tow, and in addition considers the whaleback the most dangerous type of steamer to handle. If the speed was the cause of the accident Capt. Burnett was, in my opinion, entirely at fault for not even attempting to control, as he asserts, excessive speed, of which the tug master is supposed to be the judge, such being the practice by an unwritten common law in vogue ever since the use of tugs in this capacity became prevalent on the Great Lakes; but in my opinion the accident was not caused by excessive speed, but was caused by the throttle valve closing automatically while the engineer was on his knees oiling the machinery, permitting the Record to drop back under the bow of the Neilson.

"From the evidence submitted I fail to discover wherein Capt. Wm. J. Hunt is guilty of violating any of the laws, rules or regulations governing navigation, and I therefore reverse your decision by which the license of William J. Hunt as master and pilot was suspended for a period of one year, commencing Dec. 12, 1899, and ending Dec. 11, 1900."

## AN ENGINEER'S LICENSE.

We have received this week an original license granted to Samuel C. Welch at Detroit 23d August, 1856, signed by George W. Strong as local inspector.

Mr. Welch was born November 17, 1792, in Delphos, O., and died at the age of 89 years while at West Bay City.

It may be of interest to a number of our readers to note the clauses contained in the old license which is one of the earliest on record.

DUTIES AND LIABILITIES OF ENGINEERS LICENSED UNDER THE STEAMBOAT LAW OF AUGUST 30, 1852.

Section 9, Ninth Clause. "The license of an engineer may be revoked upon proof of negligence, unskilfulness, or inattention to the duties of the station."

Tenth Clause. "It shall be unlawful for any person to serve as an engineer on steam vessels carrying passengers, who is not licensed by the inspectors, under a penalty of one hundred dollars for each offense."

Thirteenth Clause. "If it shall appear satisfactorily that any such engineer is incompetent, or that life has been placed in peril by reason of such incompetency, or by negligence or misconduct on the part of any such person, the board shall immediately suspend or revoke his license."

Fifteenth clause. "It shall be the duty of all engineers to assist the inspectors in the examination of any vessel to which such engineer belongs, and to point out all defects in the hull or the apparatus for steaming, and also to make known to them, at the earliest opportunity, all accidents occasioning serious injury to the vessel or her equipment, whereby life may be in danger, and in default thereof the license of any such engineer shall be revoked."

Section 11. "That if an engineer, whether acting under orders or not, shall intentionally load or obstruct, or cause to be loaded or obstructed, in any way or manner, the safety valve or valves of a boiler, or shall employ any other means or device, whereby the boiler shall be subjected to a greater pressure than the amount allowed by the inspector's certificate, or shall be exposed to a greater pressure, or shall intentionally derange or hinder the operation of any machinery or device employed to denote the state of the water or steam in the boiler, or to give warning of approaching danger, it shall in any such case be a misdemeanor, and any person concerned therein, directly or indirectly, shall forfeit two hundred dollars, and may, at the discretion of the court, be in addition thereto imprisoned not exceeding eighteen months."

Section 12. "That if at any time there be a deficiency of water in the boiler, by suffering it to fall below three inches above the flue, unless the same happens through inevitable accident, the engineer shall be guilty of an offense for which he shall be fined one hundred dollars, and if an explosion or collapse happens in consequence of such deficieney, he may be further punished by imprisonment for a period of not less than six nor more than eighteen months."

Section 29. "Should any engineer, by neglecting or wilfully refusing to stop or start the engines, be the means thereby of causing collision, any such engineer so neglecting or refusing shall be liable to a penalty of thirty dollars, and to all damage done to any passenger, in his person or baggage."

Section 30. "Any person sustaining loss or injury through carelessness, negligence, or wilfull misconduct of any engineer, or their neglect or refusal to obey the provisions of law herein prescribed as to navigating such steamers, may sue such engineer and recover damages for any such injury caused as aforesaid by any such engineer."

Section 38. "If any such engineer, or any witness summoned under this act before the inspectors, shall, when under examination on oath, knowingly and intentionally falsify the truth, such person shall be deemed guily of perjury, and if convicted, be punished accordingly."

At a meeting of the Board of Supervising Inspectors of Steamboats, held at Washington, November 2, 1852, it was

Resolved, that the local inspectors be instructed to urge upon all engineers of steamboats the absolute necessity and propriety that exists in all cases, immediately upon the stoppage of the engine, for opening the furnace doors or flue caps, where flue caps are used, or to close the dampers where dampers are used; and in cases where, from accident or other cause, the water in boilers has fallen below the point of safety, the imperative necessity for immediately putting out or damping down the fires, as the occasion may require.

At a meeting of the Board of Supervising Inspectors of Steamboats held at Washington, Aprll 10, 1854, the following preamble and resolution was adopted:

Whereas, it has come to the knowledge of the Supervising Board, that in very many instances the fire pumps required by law, are not kept in proper condition for immediate use in case of emergency, and that this inefficient condition of the pumps is the result from the want of a clear explanation as to whom the duty of keeping said pumps in order, therefore,

Resolved, that it shall be the duty of the engineers of all passenger steamers to keep their fire pumps, hose, attachment and appurtenances in perfect condition for immediate use, and the local board are hereby directed in all cases to see and know that said pumps are so kept by the engineer.

We are indebted to Mr. Harry E. McArthur, Saginaw, Mich., for this copy of license.

S. F. HODGE & CO.
MARINE ENGINES,
PROPELLER WHEELS,
DECK HOISTERS,
MARINE REPAIRS.
312 ATWATER STREET,
DETROIT, MICH.

Chas. E. & W. F. Peck,
58 William Street, New York City. Royal Insurance Building, Chicago, Ill.
C. T. BOWRING & CO.
5 and 6 Billiter Avenue, E. C., - London, England.

Insurance
BROWN & CO., - - - 202 Main Street, Buffalo, N. Y.
A. A. PARKER & BRO., 15 Atwater St., W. Detroit, Mich.
J. G. KEITH & CO., - 138 Rialto Building, Chicago, Ill.
LA SALLE & CO., Board of Trade Building, Duluth, Minn.
Are prepared to make rates on all classes of Marine Insurance on the Great Lakes, both CARGOES and HULLS.

The Salvage Association of North America.
INCORPORATED 1899.
AN ASSOCIATION FOR THE PROTECTION OF UNDERWRITERS' INTERESTS AS REGARDS WRECKED AND DAMAGED PROPERTY AT SEA.
Application for the services of surveyors of this Association may be made to either the Chicago or New York offices.
Chicago Office,
ROYAL INSURANCE BLDG.
New York Office,
MUTUAL LIFE INS. CO. BLDG.

## Steamboat Fuel at Chicago.

THE Y&L

YOUGHIOGHENY and LEHIGH COAL CO.

J. T. CONNERY, Manager. ARCHIE J. HITCHCOCK, Dock Supt.

MAIN OFFICE: 1238-1242 Chicago Stock Exchange Building.

Long Distance Telephone, Main 5049. 110 LA SALLE STREET.

FUEL DOCKS: No. 1, Michigan Slip and Basin. 'Phone 3046, Main.
No. 2, N. Halstead St. Bridge. 'Phone 773, North.

FUEL LIGHTER: Equipped with 125 2-ton Buckets for Fueling anywhere in Harbor

## Steamboat Fuel at Cleveland.

THE P&C

THE PITTSBURGH & CHICAGO GAS COAL CO.

J. A. DONALDSON, Manager. N. J. BOYLAN, Fuel Manager.

OFFICE: 420-421 PERRY-PAYNE BUILDING.

TELEPHONE, MAIN 1888.

FUEL DOCKS: No. 1, River Bed, through Valley R. R. Bridge. No. 2, Main River, Foot of West River Street. } Telephone, West 190.

FUEL LIGHTER: 300 Tons Capacity; Fuel Anywhere in the Harbor.

WE PRODUCE OUR YOUGHIOGHENY COAL, AND GUARANTEE QUALITY.

# PICKANDS, MATHER & CO.

PIG IRON.
IRON ORE AND COAL.

FUEL LIGHTERS AT BUFFALO, ERIE, ASHTABULA, AND CLEVELAND.

At DETOUR, MICH., A FUEL DOCK equipped with Shute capacity of 600 Tons.
Best Quality PITTSBURGH COAL furnished at any time during Day or Night.

WESTERN RESERVE BUILDING, CLEVELAND, O.

# THE W. L. SCOTT COMPANY,

ERIE, PA.

WHOLESALE DEALER IN

Shamokin-Wilkes Barre ANTHRACITE.

Youghiogheny, Mansfield, PITTSBURG.

Vessel Fueling a Specialty

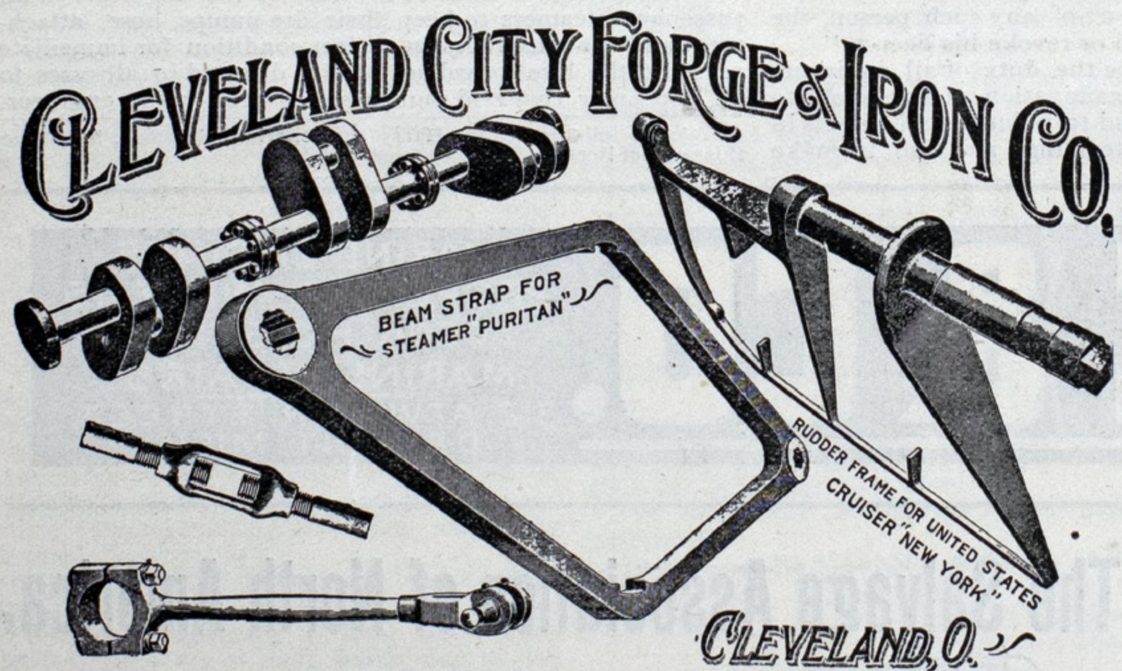
by steam lighter or car dump, at all hours. Electric light.

...Coals

MAIN OFFICE: SCOTT BLOCK. LONG DISTANCE 'PHONE 440.

FUELING OFFICE: CANAL DOCK. LONG DISTANCE 'PHONE 320.

# CLEVELAND CITY FORGE & IRON CO.




IRON OR STEEL FORGINGS FINISHED COMPLETE, ROUGH MACHINED OR SMOOTH FORGED ONLY, OF ANY WEIGHT.
COUPLING LINKS AND PINS. PRESSED WROUGHT IRON TURNBUCKLES. CAR IRON SPECIALTIES.

PRACTICAL MECHANICS.

Applied to the requirements of the sailor. By Thos. McKenzie. Illustrated; 12 mo.; cloth, $1.50, by mail, prepaid. The Marine Record, Western Reserve Bldg., Cleveland, O.

PATENTS

Procured on Inventions and Designs. Labels, Prints and Trade Marks Registered.

Sixteen Years' Experience.

R. W. BISHOP, - Washington, D. C.

# M. A. HANNA & CO.

COAL, IRON ORE AND PIG IRON.

Steamboat Fuel at Ashtabula.

Large Supplies of Best Quality.

Fuel scow with elevators and discharging spouts. Storage of 650 tons. Discharges 150 tons an hour into steamers while unloading cargo.

LIGHTER carrying different grades at all times.

MINERS AND SHIPPERS.

MAIN OFFICE, Perry-Payne Bldg., Cleveland, O.

LIFE BOATS. YAWLS. LIFE RAFTS.

# DETROIT BOAT WORKS

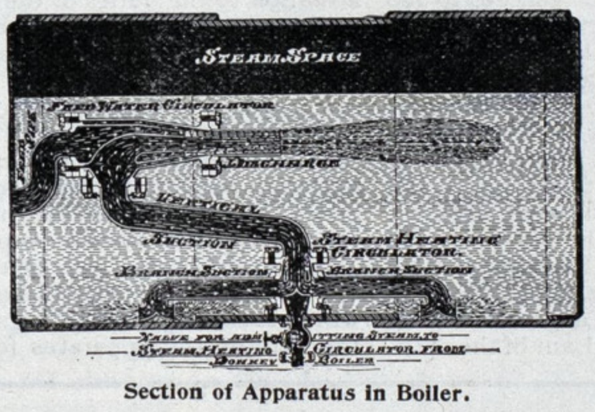
DETROIT, MICH.

STEEL, IRON AND WOODEN TUGS.

STEAM AND SAIL YACHTS.

ALL KINDS OF PLEASURE BOATS, FISHING AND HUNTING BOATS, SHELLS, BARGES, GIGS AND CANOES.

For Heating and Circulating the Water in Steam Boilers.




Section of Apparatus in Boiler.

THE EQUILIBRIUM CIRCULATOR AND STEAM HEATING ATTACHMENT

Saves coal or increases steaming capacity 5% to 15%.

Prevents foaming or priming or pitting.

Reduces repairs. Saves leaks.

Prolongs life of boiler.

106 IN USE. 50 ORDERED.

H. BLOOMSBURG & CO.

112 35th St. Newport News, Va.

Marine Valve Oil,
Eldorado Engine Oil,
Victor Signal,
Arctic Cup Greases,

Renown Engine Oil,
Atlantic Red Engine Oil,
Mineral Seal Oil,

are trade mark brands manufactured by the

# Standard Oil Company

The best goods are most economical.

and found on sale at all lake ports.

Remember the names.

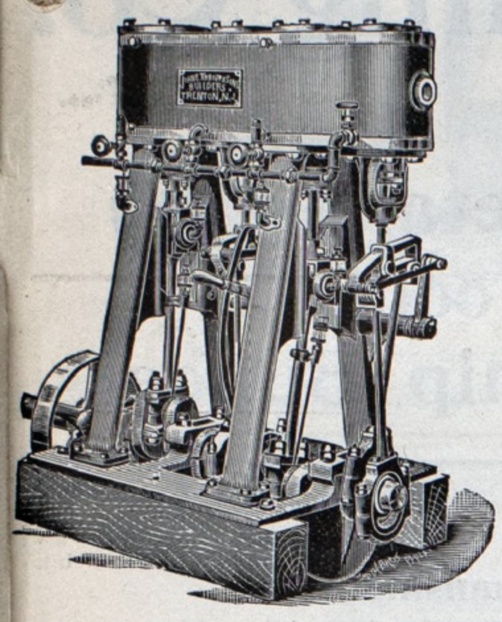
## Cottage Grove Lake Picnic Grounds.

Cottage Grove picnic grounds on the Cleveland Terminal & Valley R. R. has been thoroughly overhauled and renovated and will be opened for the season about May 1, under an entirely new management. For particulars apply to J. E. Galbraith, Traffic Manager, C. T. & V. R. R, Cleveland, O.

## The Nickel Plate Road

offers special low rate of one cent a mile traveled to Findlay, O., account Annual Encampment of G. A. R., Department of Ohio. Tickets available May 7th, 8th and 9th, good returning until the 11th, inclusive. Inquire of agents or address C. A. Asterlin, T. P. A., Ft. Wayne, Ind. 56-18

# John E. Thropp & Sons' Co.



BUILDERS OF

Compound and Triple Expansion

## ENGINES,

Boilers, Surface Condensers, Propeller Wheels, Etc.

Contracts taken for yachts and tugs complete. Send for photographs of Engines and descriptive pamphlet.

Works on Delaware & Raritan Canal Basin.

TRENTON, N. J.

# The KENNEY FLUSHOMETER

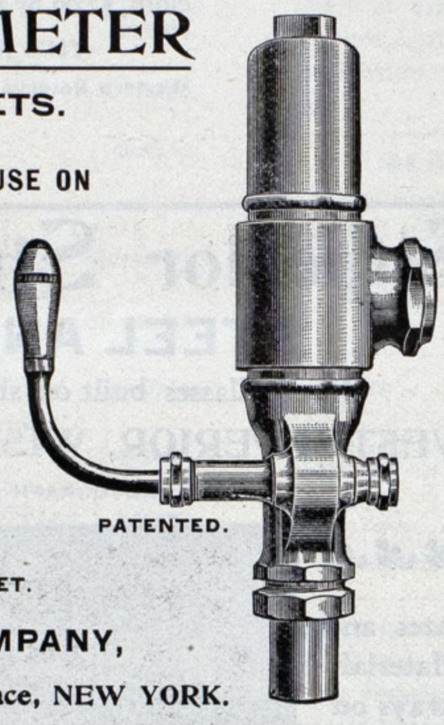
FOR FLUSHING WATER CLOSETS.

No Cup Leathers or Springs.

THE BEST SYSTEM EVER INVENTED FOR USE ON STEAM VESSELS.

Owners and constructors of Steamships, Yachts and Steamboats have found it indispensable. Used by the U. S. War and Navy Departments. Transports Grant, Sheridan, Burnside, Terry, Hooker, Thomas, Sedgewick, Meade, McClellan, Sherman, Crook. Also Albany Day Line Steamers and others.

Showing application of Flushometer.



PATENTED.

SEND FOR ILLUSTRATED PAMPHLET.

THE KENNEY COMPANY,

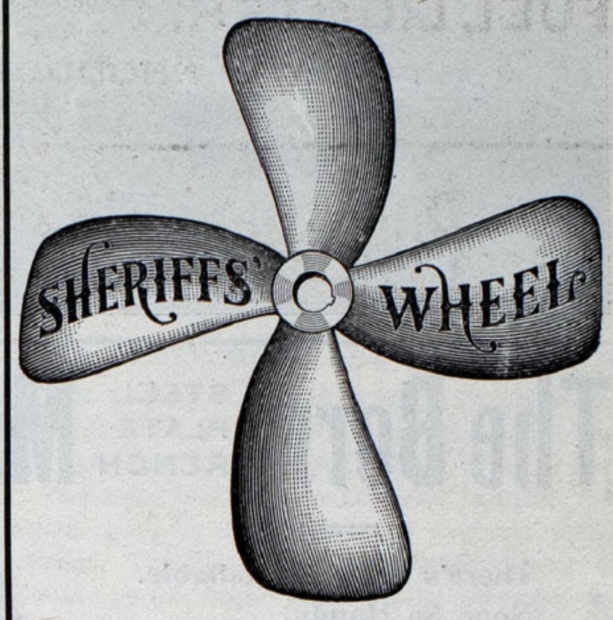
72-74 Trinity Place, NEW YORK.

# Ship Yard for Sale.

The well-known yard and dry dock at New Baltimore, New York, fifteen miles below Albany. Has one large marine railway, steam saw and planing mill, timber slip, mould loft and all necessary facilities for the business; plenty of room for sliding off either side of dry dock for repairs or building new vessels; has a water front of 500 feet, with docks and buildings in good repair; well equipped and good facilities for getting timber by water or rail. This yard has done a prosperous business for many years. All in first-class order. Good reasons for selling. Terms easy. A good opportunity for the right party. For full particulars and terms address the owner, Wm. H. Baldwin, New Baltimore, Greene County, N. Y. 47-8

# SHERIFFS MFG. CO.

ESTABLISHED 1854.




MILWAUKEE, WIS.

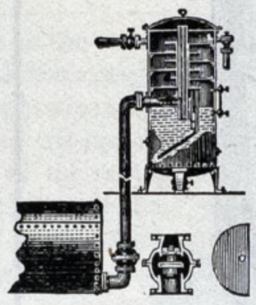
# THE CHASE MACHINE COMPANY,

ENGINEERS AND MACHINISTS.

MANUFACTURERS, UNDER THE CHASE PATENTS, OF

Fog Whistle Machines, Hoisting Engines, Steering Engines Automatic Towing Engines. Power and Drop Hammers, and other Machinery. Engineers' Supplies and General Jobbing.

111 ELM STREET. TELEPHONE, MAIN 994. CLEVELAND, O.



# Buffalo Feed Water Heater

AND PURIFIER.

Made in all Sizes and to Suit all Conditions.

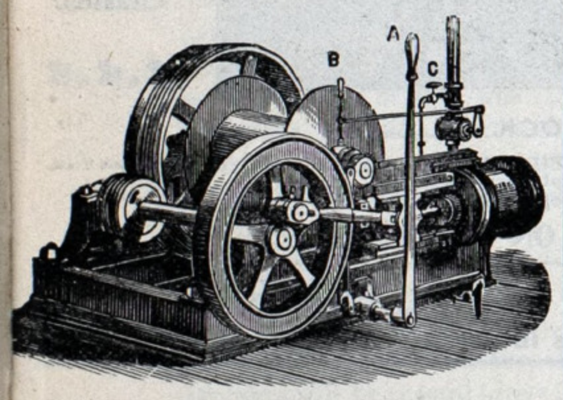
Send for Catalogue.

ROBERT LEARMONTH,

200 Bouck Ave., BUFFALO, N. Y.

# WILLIAMSON BROS.

COR. RICHMOND AND YORK STS., Philadelphia, Pa.




HOISTING and SHIP ENGINES STEERING ENGINES.

With either Fractional, Spur or Worm Gear of Various Patterns to Suit all Purposes.

## Compasses Adjusted

For deviation, and deviation tables supplied. Great facilities for doing the work by day or night.

## John Maurice.

Office, 24-26 Market St., CHICAGO.

Residence, 1213 Albany Avenue.

## Scott's Coast Pilot for the Lakes.

Price, $1.50.

For Sale by THE MARINE RECORD, Western Reserve Building, Cleveland.

JOHN DONNELLY, SR., Pres.
JOHN DONNELLY, JR., Vice Pres.

H. B. FOLGER, Treas.
THOS. DONNELLY, Sec'y.

# THE DONNELLY SALVAGE AND WRECKING CO., Ltd.

KINGSTON, ONT.

EXPERIENCED DIVERS, TUGS, STEAM PUMPS, ETC.,

SUPPLIED ON SHORTEST NOTICE.

## NEVERSINK CORK JACKET AND LIFE BELT.

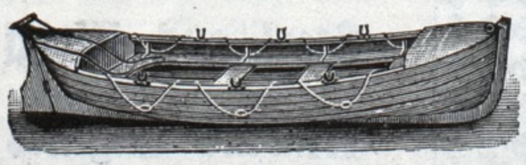
Warranted 24 lb. Buoyancy and full Weight of Cork, as required by U. S. Inspectors. **Consolidated Cork Life Preservers.** Superior to all others. **Rings Buoys and Fenders.** SAFEST CHEAPEST.

Approved and adopted by U. S. Board of Supervising Inspectors.

Also adopted by the principal Ocean, Lake and River Steamer Lines as the only Reliable Life Preserver. Vessels and trade supplied. Send for Catalogue.

Awardad four medals by World's Columbian Exposition.

METALLIC and WOODEN LIFE BOATS.



Metallic Life Rafts, Marine Drags.

Manufacturer of Woolsey's Patent Life Buoy, which is the lightest, cheapest and most compact Life Raft known. Send for illustrated catalogue. Get our prices before buying elsewhere.

D. KAHNWEILER'S SONS, 437 Pearl St., New York City.

## Sellers' Restarting Injector

*A strictly first class machine at moderate cost. Perfectly automatic, has wide range of capacities, and raises water promptly with hot or cold pipes. Very simple, has few parts and is easily repaired. All parts interchangeable, made of the best bronze, and the workmanship is perfect. Send for special catalogue descriptive of this Injector.*

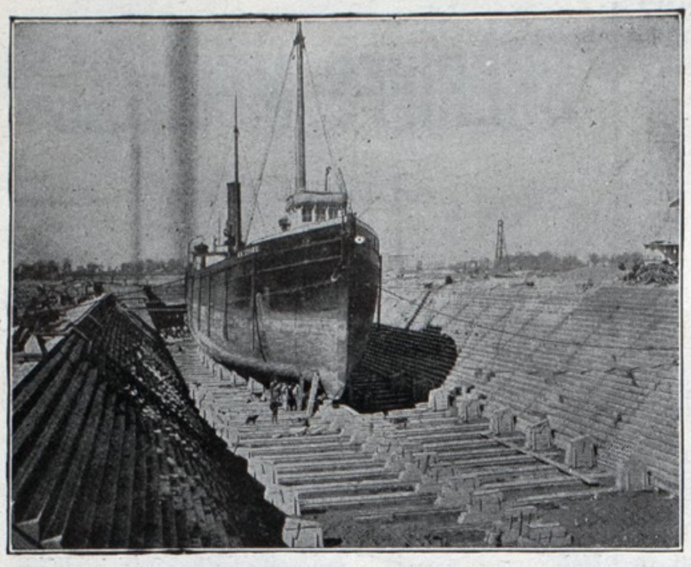
JENKINS BROTHERS, Selling Agts.

New York, Boston, Phila., Chicago.

# A. J. MORSE & SON.

DIVING APPARATUS

140 CONGRESS ST. BOSTON.



# Craig Ship Building Co.

TOLEDO, OHIO.

New Dry-Dock 450 feet long, 110 feet wide on top, 55 feet wide on bottom, 16 feet water on sill.

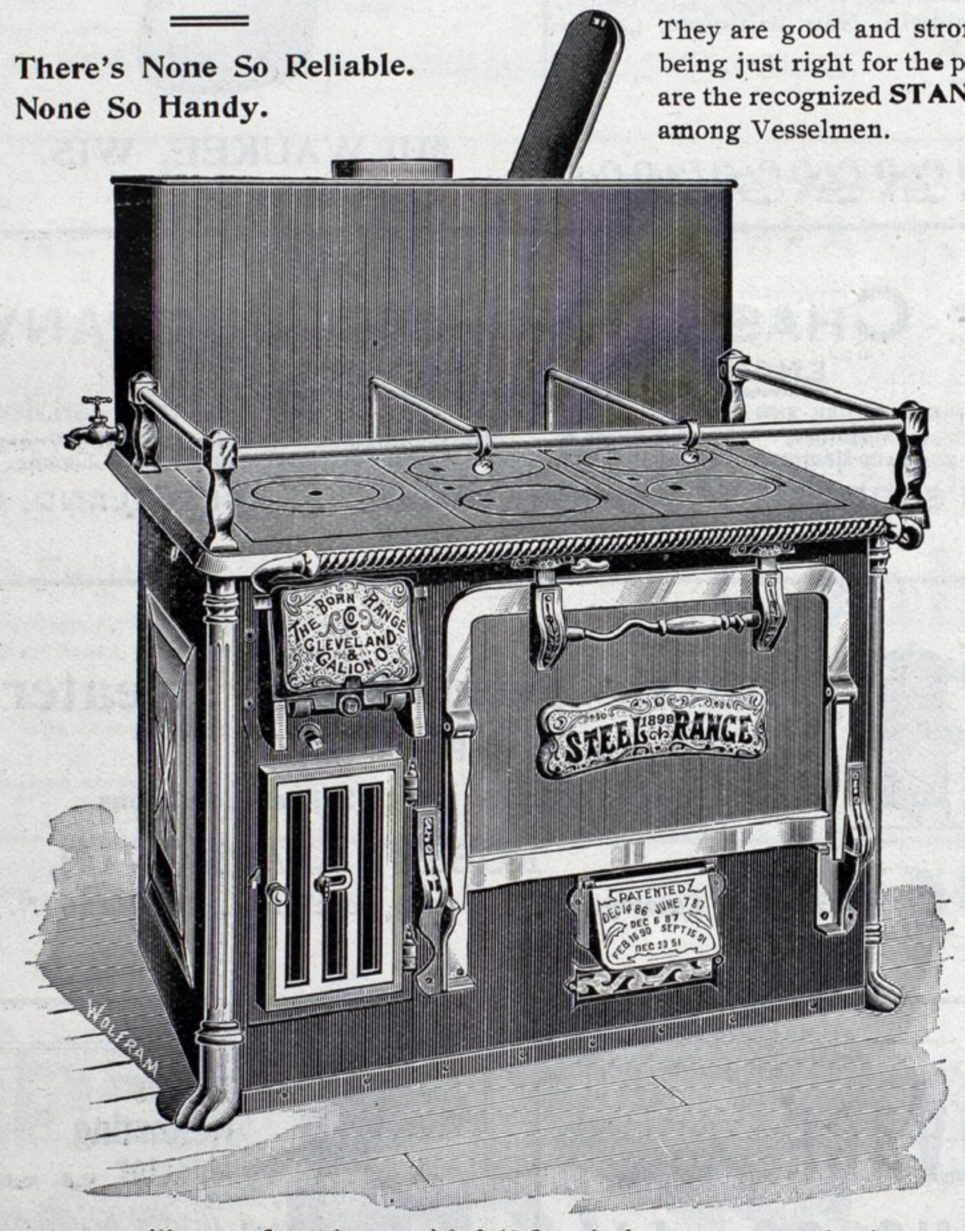
**Repairs to Metal and Wooden Ships a Specialty.**

Metal and Wooden Ship Builders.

# The Born STEEL PLATE FRENCH Marine Ranges

**There's None So Reliable. None So Handy.**

They are good and strong, and being just right for the purpose, are the recognized **STANDARD** among Vesselmen.




Large illustrated catalogue with full description sent on application.

The Born Steel Range and Manufacturing Co.
CLEVELAND, OHIO.

**Elementary Seamanship.**

By D. Wilson Barker. Illustrated; 12 mo.; cloth, $2.00 by mail prepaid.

THE MARINE RECORD,
Western Reserve Bldg., Cleveland, Ohio.

# Superior Ship Building Co.

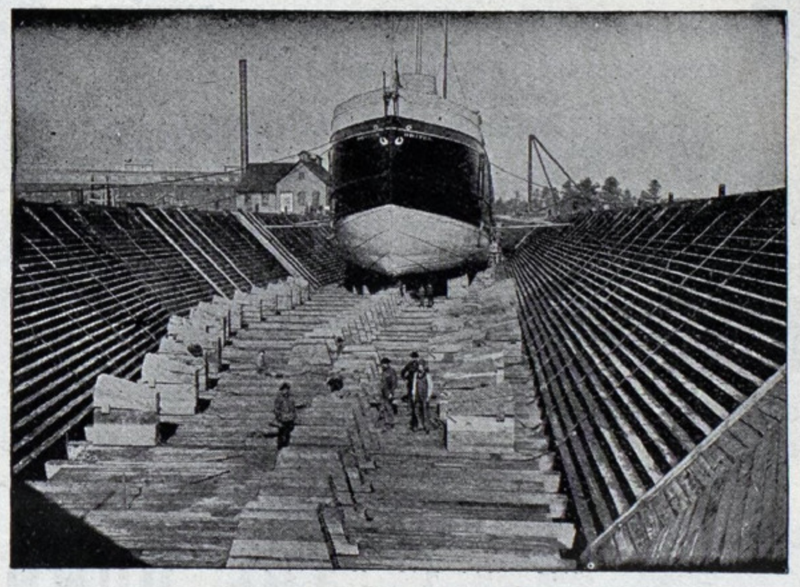
STEEL AND METAL SHIPS

Of all Classes built on shortest possible notice at our yards at

WEST SUPERIOR, WIS., and also at EVERETT, WASH.

PHOTOGRAPH OF 300-FOOT BOAT IN DOCK.

Plates and Material always on hand to repair all kinds of Metal Ships in Shortest Time.



Best Quality of Oak in Stock for Repairing Wooden Vessels of all Classes.

SIZE OF DOCK

| | | | |
|---|---|---|---|
| Length, Extreme | 537 feet. | Entrance, Top | 55 feet 9 in. |
| Breadth, Top | 90 " 4 in. | Entrance, Bottom | 50 " |
| Breadth, Bottom | 52 " | Depth over Sills | 18 " |

LARGEST DRY-DOCK ON THE LAKES.

Prices for Repairs and Docking same as at Lower Lake Ports.

SUPERIOR, WIS.

A Number of Propeller Wheels in Stock at Dry-Dock.

W. S. JENKS, President. O. L. JENKS, Vice Pres. and Treas. A. M. CARPENTER, Sec. and Gen'l Mgr.

# The Jenks Ship Building Co.

Office and Machine Shops
Fourth Street.

Yards
Foot of Lincoln Ave.

Steel and Wood Ship Builders.
Marine Engines and Boilers.

Port Huron, Mich.

STEAM WINDLASSES CAPSTANS AND STEERING APPARATUS